

136.72

B48i

The Influence of the Group on the Judgments of Children

RETH W. BERENDA

136.72 B481
Berenda
Influence of the
group on the judg-
ments of children
\$2.25 51-5958

Acc. No.

136.72 B481

Keep Your Card in This Pocket

Books will be issued only on presentation of proper library cards.

Unless labeled otherwise, books may be retained for two weeks. Borrowers finding books marked, defaced or mutilated are expected to report same at library desk; otherwise the last borrower will be held responsible for all imperfections discovered.

The card holder is responsible for all books drawn on this card.

Penalty for over-due books 2c a day plus cost of notices.

Lost cards and change of residence must be reported promptly.



Public Library
Kansas City, Mo.

TENSION ENVELOPE CORP.

KANSAS CITY PUBLIC LIBRARY

0 0001 0267486 2

The image shows two sets of dot patterns. The top set forms the word 'WAVE' and the bottom set forms the word 'ONE'. Each letter is constructed from a collection of small black dots arranged in a grid-like fashion.

LA 1 172

SEP 8



The Influence of the Group
on the Judgments of Children

AN EXPERIMENTAL INVESTIGATION

PUBLIC LIBRARY
THE INFLUENCE OF
THE GROUP ON
THE JUDGMENTS OF
CHILDREN

An Experimental Investigation

RUTH W. BERENDA

*Psychologist, Childrens' Court
of the Domestic Relations Court
New York City
Instructor in Psychology
Hunter College*

KING'S CROWN PRESS
COLUMBIA UNIVERSITY, NEW YORK
1950

Foreword

THERE HAS BEEN a marked trend in the social psychology of recent years to regard the basic issues as comprising the whole individual—his mode of perceiving, feeling, thinking, reacting. This has resulted in the focusing of interest on the problems of *social perception*; specifically, the dynamics which govern perceiving when social pressures require that one define the situation in one way or another. With this emphasis has come the intensification of the belief that it is only by experimental methods that a solid and dependable answer can be obtained.

Naturally, then, social psychologists are delighted to note the reformulation of issues from the standpoint of Gestalt psychology, and the ingenious means by which experiments have been set up to determine the exact role played by past and present factors in guiding individual perception and thought, and the feeling tone which goes with acceptance or rejection of the pressures applied by others to require that we see things as they see them.

It is in this context that one must understand the well-planned and competently executed experiments of Dr. Ruth Berenda—experiments in which hypotheses are clearly defined, techniques systematically thought through, and data unequivocal as regards their main implications. Without generalizing regarding other situations and basically different types of social pressures, social psychologists may gratefully point here to a study in which the struggle of the individual to accommodate himself to the requirements of others encounters an obstacle in the individual's clearest and deepest certainties regarding the world around him. It is to be hoped that these new methods will enable us to understand more fully the nature of the struggle between social pressures and the individual's demand for autonomy.

GARDNER MURPHY

NEW YORK CITY
July, 1949

Acknowledgments

I AM GLAD to have this opportunity to acknowledge the aid and co-operation of the numerous persons who made this study possible.

I am greatly indebted to the New School for Social Research for granting me the Halle Fellowship and tuition scholarships for the years 1945-46 during which most of the experimental work was done. For their generous and intelligent co-operation in performing these experiments, I am indebted to the many teachers and principals: Mrs. Ruth Schatteles and Mr. Benjamin Sallen; to Mr. Morris Goodman for his assistance in the experiments; to Mr. Jacques Rindner for his expert help with the graphs; to Mrs. Belle Lind for her conscientious labor connected with bringing the manuscript to its final form; and to the 800 children who participated in this enterprise.

For their many fruitful and inspiring discussions on the problem, I want to thank Professor Albert Salomon and Professor Carlton W. Berenda.

I have been fortunate and privileged to have the inspiring guidance and encouragement of Professor Wolfgang Köhler who has generously given of his time and wisdom. For his teachings and his friendship I shall forever be grateful.

My main gratitude goes to Professor S. E. Asch for introducing me to the problem and for his constructive criticism and generous help.

R. W. B.

NEW YORK CITY
July, 1949

Contents

1.	HISTORICAL INTRODUCTION	1
2.	FORMULATION OF THE PROBLEM AND PROCEDURE	12
3.	EXPERIMENT I: A GROUP VERSUS A MINORITY OF ONE	14
	Problem and Procedure	14
	Results	19
	The Effect of Age	24
	I.Q. and Following	25
	Teacher's Choice and Frequency of Following	26
	Qualitative Differences between Younger and Older Children	27
	Discussion	28
	Summary	32
4.	EXPERIMENT II: TEACHER VERSUS CHILD	34
	Problem and Procedure	34
	Results	36
	Discussion	45
	Summary	49
5.	EXPERIMENT III: ESTIMATES, MINORITY VERSUS MAJORITY	50
	Problem and Procedure	50
	Results	52
	Discussion	56
	Summary	60
6.	EXPERIMENT IV: COMPARISONS, MINORITY VERSUS MAJORITY	61
	Problem and Procedure	61
	Results	62

Discussion	71
Summary	75
7. DISCUSSION AND SUMMARY	76
BIBLIOGRAPHY	83
INDEX	85

Tables

1. LENGTHS OF STANDARD AND COMPARISON LINES AND THE RESPONSES OF THE CO-OPERATING GROUP	15
2. FREQUENCY OF "FOLLOWING" RESPONSES ON CRITICAL LINES, EXPERIMENT I	20
3. DISTRIBUTION OF "GROUP" RESPONSES TO EACH CRITICAL LENGTH, YOUNGER CHILDREN	21
4. DISTRIBUTION OF "GROUP" RESPONSES TO EACH CRITICAL LENGTH, OLDER CHILDREN	22
5. FREQUENCY OF "FOLLOWING" RESPONSES ON CRITICAL LINES FOR OPPORTUNITY AND AVERAGE CLASSES	26
6. TEACHER'S CHOICE AND FREQUENCY OF "FOLLOWING"	27
7. FREQUENCY OF "FOLLOWING" RESPONSES ON CRITICAL LINES, EXPERIMENT II	36
8. DISTRIBUTION OF "TEACHER" RESPONSES TO EACH CRITICAL LENGTH, YOUNGER CHILDREN	37
9. DISTRIBUTION OF "TEACHER" RESPONSES TO EACH CRITICAL LENGTH, OLDER CHILDREN	38
10. COMPARISON OF EXPERIMENTS I AND II	42
11. TEACHER'S CHOICE—TEACHER VS. CHILD	45
12. LENGTHS OF LINES (IN INCHES)	50
13. DISTRIBUTION OF ESTIMATES OF 2½-INCH LINE	53
14. DISTRIBUTION OF ESTIMATES OF 5-INCH LINE	53
15. DISTRIBUTION OF ESTIMATES OF 9-INCH LINE	54
16. 2½-INCH LINE	57
17. 5-INCH LINE	57

18.	9-INCH LINE	58
19.	4 $\frac{1}{4}$ -INCH COMPARISON LINE	63
20.	4 $\frac{1}{2}$ -INCH COMPARISON LINE	65
21.	4 $\frac{3}{4}$ -INCH COMPARISON LINE	66
22.	5-INCH COMPARISON LINE	67
23.	5 $\frac{1}{4}$ -INCH COMPARISON LINE	68
24.	5 $\frac{1}{2}$ -INCH COMPARISON LINE	69
25.	5 $\frac{3}{4}$ -INCH COMPARISON LINE	70

Figures

1.	MAJORITY VS. MINORITY OF ONE	20
2.	MAJORITY VS. MINORITY OF ONE, YOUNGER CHILDREN	23
3.	MAJORITY VS. MINORITY OF ONE, OLDER CHILDREN	23
4.	TEACHER VS. CHILD, YOUNGER CHILDREN	39
5.	TEACHER VS. CHILD, OLDER CHILDREN	39
6.	TEACHER VS. CHILD AND MAJORITY VS. MINORITY OF ONE	43
7.	TEACHER VS. CHILD AND MAJORITY VS. MINORITY OF ONE, YOUNGER CHILDREN	44
8.	TEACHER VS. CHILD AND MAJORITY VS. MINORITY OF ONE, OLDER CHILDREN	44
9.	4 $\frac{1}{4}$ -INCH COMPARISON LINE	64
10.	4 $\frac{1}{2}$ -INCH COMPARISON LINE	65
11.	4 $\frac{3}{4}$ -INCH COMPARISON LINE	66
12.	5-INCH COMPARISON LINE	67
13.	5 $\frac{1}{4}$ -INCH COMPARISON LINE	68
14.	5 $\frac{1}{2}$ -INCH COMPARISON LINE	69
15.	5 $\frac{3}{4}$ -INCH COMPARISON LINE	70

CHAPTER ONE

Historical Introduction

THE EXPLORATIONS in the field of social psychology commenced with the attempt to show the laws by which groups control the conduct of their members and how individuals within the group act upon one another. In the works of Le Bon, Sighele, and Tarde, man was envisaged as a helpless victim of the group. Through suggestion, which was defined as the blind acceptance of a proposition in the absence of logically adequate grounds, the group could sway the individual member in any desired direction, irrespective of the structure of the situation, its needs, and its requirements.

This doctrine determined the direction of the early investigations. The experiments on "prestige," "propaganda," and "suggestion" have, for the most part, confined themselves to a quantitative demonstration of these phenomena in social life. In their quest for "average" situations, psychologists excluded individual variations, thus leaving untouched the decisive factor in the study of group dynamics—namely, the position of the individual in the actual, concrete, total situation. From experimental situations that by their very nature excluded the possibility of intelligent behavior on the part of the individual these investigations found confirmation for the thesis that man is but a blind and helpless victim of the suggestive influence of his fellow men.

Typical of this approach was Moore's (13)¹ experiment on the suggestive influence of "majority" and "expert" opinions on the judgments of individuals. To ninety-five subjects, eighteen paired comparisons in the fields of language, morals, and music were presented for judgment. In language the subjects were asked to choose the less offensive of two colloquial expressions, such as "Everybody loves their mother" and "He never studies nights." Eighteen ethical choices were presented for selection of the more offensive of the various pairs of actions—for example, disloyalty to friends or cheat-

¹ The parenthesized numbers refer to numbered references in the Bibliography.

ing on examinations. In the field of music the subjects were asked to indicate their preferences between two resolutions of a dominant seventh played on the organ. Two days later the entire set of problems was presented again, and the number of reversals of judgment calculated.

Two and one-half months later a new set of judgments was taken; two days afterwards the same series was presented, but this time the subjects were given a statement of what had been the majority preference for each pair. When the same material was presented again after two days, it contained a statement of the opinion of an expert in each field.

Each person was scored on the basis of the percentage of opportunities accepted for reversing his judgments to conform with the opinions of the experts and the majority.

The results indicated that in the case of a majority opinion the average number of reversals of judgment was 62.2 per cent in language usages, 50.1 per cent in ethical judgments, and 48.2 per cent in musical preferences. Expert opinion had a more uniform effect, producing an average number of reversals of 45 and 50 per cent for all three types of material. Moore found that, whereas the change in the direction of the majority in matters of speech and morals was about five times the figure given by chance, in music it was only about twice the chance figure.

Accepting the thesis that man is a victim of suggestion, Moore did not even analyze the reasons for the discrepancy in results for the different types of material under the two forms of suggestion but drew the general conclusion that the average subject is two and one-half times as individualistic in his musical likes and dislikes as in his moral and linguistic preferences.

The limitations of this study are apparent:

1. Sweeping generalizations about the nature of man were drawn from quantitative results without any attempt at an understanding of the reasons for or the meaning of these results.

2. The experimental situation was artificial in that the opinions of the majority and of the experts were simply indicated in writing and the subject at no time felt the impact of his disagreement with this majority or the experts.

3. The author failed to see that the material offered for judgment, especially in the fields of language and ethics, was ambiguous. In language no choice was really available to the subject because both statements of each pair were equally offensive. As for ethics absolute judgments were required on statements that were too general and therefore ambiguous. Surely, cheating on an examination that is felt to be a fair and reasonable one is different from cheating on an examination that the person considers unfair and unreasonable.

The musical material was clear and sensible. The effect of the majority and expert opinions on these judgments was, therefore, weak. In other words, Moore's results showed that individuals are ready to accept the opinions of an expert or even of an unknown majority when the situation is ambiguous and not clearly structured. We shall find these results confirmed in several recent studies.

The first study on the effect that the opinion of a group has on the judgments of its members was made by Münsterberg (14) as early as 1914.

To a class of 400 students the author presented pairs of black cards upon which there were white dots. Each subject had to decide whether the upper or lower card had the larger number of dots. The number of dots was kept so nearly equal that the correct judgments were only 60 per cent of the total. The experiment was repeated after twenty seconds, but this time there was a preliminary show of hands that indicated the choices in the first experiment. When judging thus in the group, the number of correct answers increased from 1,443 to 1,556 out of a total of 2,400.

Here again we see that when the objective situation is ambiguous the effect of a group on the judgments of its members can be in the direction of greater accuracy. Münsterberg must have been aware of this, for he pointed out that only about one third of the students actually tended to adapt themselves to the group judgments. He further asserted that the results are due to a pronounced effect on the minority by the majority and that there is little or no effect on the majority by the minority.

This pioneer study of Münsterberg was followed in 1916 by Clark's (4) quantitative analysis of the spread of suggestion through

a large classroom. Uncorking a bottle that contained water in front of a group of 168 students, she ascertained the number of seconds before the "odor" was perceived by subjects located in various parts of the room. Of these, 33 smelled the "odor," though of 9 tested individually and apart from the group, only one got the effect. The results indicate that the effect of suggestion varied with the distance of the subject from the experimenter.

It seems likely that the individual students were responding to one another as well as to the experimenter and that the results were due, not to blind imitation, but rather to a desire to do the "expected thing."

Again, however, no qualitative data were offered to explain the results; and though the experimental situations were made very real, no attempt was made to understand the dynamics of the process of suggestion or the meaning of the situation to the subjects.

In the last ten to fifteen years there has been a trend away from purely quantitative studies. An attempt has been made to understand the nature of social situations which affect the individual and to study the dynamics of the shifts of opinion which group pressure, prestige, and suggestion exercise. Levels of difficulty of tasks presented, the degree of structurization of the objective situation, the size and nature of the groups involved, and the meaning of the tasks to the subjects were considered and studied.

Several of those investigations support the hypothesis that the effectiveness of suggestion depends on the degree of clarity of the situation.

The experiment of Annis and Meier (1) is instructive as to the conditions under which one-sided appeals may be effective. With the collaboration of the printer, several editorials, half laudatory and half derogatory, about an imaginary political figure were "planted" in a university daily. Half of seventy-five subjects read one of each type of editorial at fifteen successive meetings of the same class. The same procedure was followed in another class of sixty-three, except that there were only seven of each type of editorial. The results showed significant differences between the groups that read the favorable and those that read the unfavorable

material, both immediately and four months later. Where the situation is completely unstructured, propaganda, good or bad, must serve as the only frame of reference available to the subject.

The experiments of Sherif (17) and Lorge (9) on the changes in the rating of verbal passages under the influence of prestige suggestion were repeated by Asch (3). Supplementing the quantitative method with subjective protocols, Asch ascertained that the shift in rating was not due to prestige but rather to a reinterpretation of the meaning of the passage consonant with what the subject knew of the author.

In another significant study Asch (2) found that an individual's judgments of relatively ill-defined and unclear situations could be changed when the imputed judgment of congenial groups was introduced as a reference. In a series of experiments college students were asked to rank a number of professions for several qualities. The judgments were rendered, however, under different conditions: the imputed judgments were either those of a congenial group (500 college students) or their own former judgments, or those of an antagonistic group. In each case the subjects were also asked to answer such questions as: (a) "What criteria did you use in arriving at your judgments? Give concrete examples." (b) "Do you have confidence in the judgments you have put down?"

These experiments revealed:

1. The standards imputed to congenial groups produced changes in the meaning of the object of judgment, or as Asch put it: "There is a change in the object of judgment rather than in the judgment of the object."

2. The standard of a congenial group which differed sharply from the judgment of the individual weakened the latter.

3. There was a tendency to reject the standards imputed to antagonistic groups as a basis for judgment, and this was done even more decisively when this standard was contrasted with that of a congenial group than with an identical ego-standard.

The experiments by Lewis (8) confirmed Asch's findings and offered a new interpretation of the function of prestige suggestion. Lewis said:

The prestige of a suggestion functions to provide a context for the new material which confronts the individual. . . . If the suggestion can cause a shifting of the particular opinion from one context to another, cause a reorganization of the subject's understanding, a re-patterning of his beliefs, and if *the new pattern thus created seems at least as clear and correct as the old, then a change of opinion may take place, or rather a new opinion may evolve.* (8.)

The reorganization of beliefs, according to this author, depends upon two conditions: (a) the objective nature of the material that is being judged—its evident truth or falsity, clarity or unclarity—and (b) the nature of the frame of reference from which the subject views the situation. (7, p. 242.)

The studies of Sherif (18) on the autokinetic effect, repeated by Asch and Wright (3), the work of Luchins (10, 11), and the series of experiments on the psychology of suggestion by Coffin (5) showed conclusively that social pressure cannot operate when the perceptual field of judgment is unambiguous and stable. When the material to be judged is susceptible of more than one meaning, the introduction of such factors as "prestige," "authoritative standards," and suggestion can result in a restructurizing of the material—in a change or reversal of judgment.

Coffin's studies were an attempt at a systematic analysis of situational conditions of suggestion. To study the relationship of suggestibility to the ambiguity of the stimulus situation, the tonal attributes of pitch, volume, and a fictitious attribute labeled "ortho-sonority" were presented to the subjects. A tonal stimulus was given; then after each tonal dimension had been defined, the subjects were told to equate the succeeding tone heard through their head phones with the original stimulus by turning the appropriate dial. Results showed that suggestion had no effect on pitch, the least ambiguous tonal attribute. Volume could be reversed by suggestion, but judgments of "ortho-sonority" invariably followed the experimenter's suggestion. In other words, suggestibility to these attributes increased with their ambiguity.

Coffin also found that the supposed responses of different occupational groups that had been ranked by the subjects had a great influence on these subjects' reactions to the Rorschach ink blots.

With ambiguous stimuli of this kind, the "characteristic reactions" of occupational groups that had high social standing served as anchorages for judgment.

In experiments with college students Coffin found that suggestibility was also seen to be related to the difficulty of a problem and to the amount of training the person had in the field studied. When mathematical problems, which had been arranged in order of difficulty, were presented with marginal (usually false) hints as to what procedure might be used in their solution, those who knew the most mathematics accepted less than half as many of the suggestions as those who knew least mathematics.

In still another experiment Coffin investigated the psychology of suggestion in relation both to additudinal structure and to stimulus situation. Thus, he found that in the years 1939-40 there was a significant correlation between pro-Allied attitudes and the acceptance of specially prepared pro-Allied propaganda and that, conversely, those with pro-German attitudes accepted pro-German propaganda to a significant degree.

In the light of the excellent studies on the change of judgment by Asch and Lewis, one wonders why Coffin termed the acceptance of information congruent with one's attitudes a result of suggestion. As Asch has aptly pointed out:

There is present in the process of judging a principle of functional interdependence, according to which the qualities of an object mutually determine each other. . . . There seems also a tendency in judgment to arrive at a consistent unified view, to get rid of incompatible perspectives (either by objective examination or by distorting the state of affairs). Rarely, if ever, are our attitudes half-formed and half-blank. Already in the tentative opinion there are directions, vectors which function as avenues of approach to the yet undecided question. (2.)

Though Coffin's studies were a step in the right direction in that he was aware of the many factors which operate in the process of suggestion, his experimental setups remind one too much of Moore's experiments. An analysis of individual responses and the subjects' reactions to the experimental situations, in other words, the subjects' evaluations of the situation, were lacking in Coffin's experiments. Thus, his conclusions, though interesting, give little

insight into the nature of suggestion and its role and meaning in the individual's life.

With the exception of the experiments of Münsterberg and Clark, the investigations mentioned here have studied the nature of suggestion in rather artificially arranged experimental situations. An excellent illustration of a more lifelike approach to this problem was given in the experiments of Duncker (6) and Marinho (12).

With nursery school children serving as subjects, Duncker studied the effect that the group or another individual will have on the food preferences of a child. After establishing each child's food preferences in control experiments, he had the subject make his choice after one or more predecessors had done so in his presence. The results showed that 55.4 per cent of change in the so-called "crucial" choices were attributable to social influence.

In investigating the causes and reasons for this influence, Duncker found that younger children are more ready to imitate older children than vice versa. The author also found that children younger than two and two-thirds years paid no attention to what older children did. This is not due to what Piaget termed "egocentricity" of the child but to the fact that "the scope of the baby's field of simultaneous awareness was not wide enough to permit this sort of social influence." (6.)

In order to investigate the factors of attachment and prestige (apart from age), a pair of children with a high degree of friendship was chosen. In this case there was complete identification and agreement in the choices.

As for the operation of prestige, Duncker claims that there is an upper age limit too and that there are forms of prestige that do not favor imitation. When an adult, for whom the child felt respect rather than affection, served as the predecessor, there were four in seventeen identical choices even though these same children made seventeen in twenty identical choices when children were predecessors. Thus, we see that superior age and prestige do not necessarily lead to imitation. In fact, "respect can act as a wall."² When the differences are so great as to prevent social diffusion, no

² As we have seen, these conclusions find confirmation in the experiments of Asch and Lewis in the realms of political and social judgments.

imitation will take place because there is neither group formation nor identification.

Another interesting variation of this experiment sought to determine whether a story in which the hero's favorite food was one not so well liked by children would have any effect on the children's preferences. To make the choice situation more real, each child was assigned a part, and while performing, he was asked to taste first the hemlock and then the valerian (maple) and to indicate which he liked better. The results showed that the preference of the hero did affect the choices (67 per cent preferred valerian as against 38 per cent, the control) and that this effect lasted till about the twelfth day.

Duncker drew very interesting conclusions:

When, due to social suggestion, a subject comes to like a previously indifferent or even disliked object, he really does not come to like the object so much as the feeling of being in harmony with the others, of sharing their attitude. When a real liking for the object is established, then there is either a change in the meaning of the object, of its function in the new context, or discovery of favorable elements within it takes place. If an authority, for example, judges an object as good, there is a favorable attitude suited to discovering the good. An inner organization takes place. (6).

Marinho continued Duncker's experiments in order to see whether the modified likes continued after the social influence was removed. She did this by submitting children to modifying social influence until the fixation of the new preference took place. Then, after eliminating the social cause, she tested the children in isolated choices over a period of five weeks and a year later for about two weeks in order to verify the duration of the effects. She, too, used the method of dramatization. The child was told a story of little mice who liked to eat some nice sweets the cat left behind on a table. In the experimental situation, "a big mouse," who was the planted subject, was introduced.

For ease of analysis, the author divided the children into three groups: (1) those with a predominant preference, (2) those with a temporary preference, and (3) those with an indefinite original taste. Using only groups one and three, she found that in the ex-

perimental group of originally predominant preference half of the children were markedly influenced by the example of the leader. Those with an originally indefinite taste showed a greater shift in choice.

The results obtained after a year led to the conclusion that the endurance of aftereffects largely depends upon the child's original taste. In children of the indefinite group, the experiment produced enduring aftereffects. It is significant that the same individuals had followed the leader during the experiment without hesitation. In order to obtain positive results in the group with original predominant taste, it was necessary to establish deeper social contact. Also, the aftereffects weakened and disappeared after a year.

Repetition was found to have an important bearing on the endurance of aftereffects. In children who from the beginning yielded to the influence of the example, repetition gave stability to the experimental modifications. But repetition alone is not enough. The type of leadership is also very important. Positive results were obtained in 90.1 per cent of the cases where the leader by kindness created an agreeable social atmosphere. Leaders who used force failed to produce modifications in 87.5 per cent of the cases.

So it is evident that not only is the character of the leader important, but also his personal relation with the child.

In the light of these results it is hardly possible to speak of a general instinct of imitation. The experiment proved that a positive social influence largely depends upon a specific process of gaining a child's confidence and admiration. The imitator is not simply a victim of forces beyond his control but often tries to evaluate and understand the structure of the situation in which he finds himself.

As we have seen from this brief survey, the theory of social influence is based, almost exclusively, on situations that excluded from the start the possibility of intelligent evaluation on the part of the subject.

In order to come closer to an appreciation of this factor in the social sphere, Professor Asch has been conducting the same investigation with college students for the past few years. These investigations have not yet been published. The present study is a repetition

of some of his experiments. Professor Asch's methods and materials were used in this study with young children, and a comparison of the results of these and his experiments should prove of great interest.

In this study, as in Professor Asch's experiments, instead of confronting subjects with tasks that are inherently ambiguous, a deliberate attempt was made to present the subjects with material that is basically structured. The object was to observe the development of group forces in situations that are real and within the life space of the individual.

CHAPTER TWO

Formulation of the Problem and Procedure

THIS STUDY is an attempt to analyze the effect that group pressure has on judgments of children between the ages of seven to thirteen. We are trying to understand the nature of this "pressure," the conditions under which it is effective in modifying judgments, and the child's conception of such situations and his reaction to them.

The general character of our procedure was to place an individual child in contradiction to a group and to observe the effect quantitatively and qualitatively.

We used concrete groups rather than externally introduced group opinions.

The size and the nature of the group as well as the relation of the individual to it were varied. We had a small group pitted against a larger group, an individual against a small majority and a child against his own teacher.

The group was at all times composed of members of the child's class.

In some cases the majority was made up of the child's brightest classmates (Experiment I), and in other cases (Experiments III and IV) they were all the other children in his class—bright and dull.

Systematic investigation would require that tasks differing in structural clarity be investigated. We therefore used tasks that were extremely clear and also others that were somewhat varied with regard to this quality. The subjects were required to estimate the lengths of lines, compare lines with a standard and to match lines.

With each task and under each experimental condition, in addition to the quantitative results, qualitative reactions in the form of individual protocols were obtained. In order to understand clearly the manner in which the minority child responded to the conflict situation, the experimenter initiated a discussion among the chil-

dren after each experiment. In Experiment I the majority children were previously instructed how to carry on the discussion and what questions to ask. In Experiments III and IV the discussion took place after each minority child had been interviewed individually and all had joined the group again.

The quantitative results were recorded on previously prepared charts. The qualitative material was recorded by the experimenter or the assistant and, as much as possible, taken down verbatim. The questions most frequently asked in the discussion were: "Was this a hard test? Why didn't you all agree? What do you think happened? When should one give the same answer?"

In order to estimate the effect of these group conditions, the critical children had previously responded individually to the identical task. These control data permit us to estimate directly the effect to be attributed to the group conditions. It should be understood that all the children who in our experiments served in the minority and are referred to as "critical" were drawn from classrooms in which the control experiments were performed.

All of the experiments were performed in average-size classrooms, in daylight illumination. The control data indicate that the judgments of the children in the back seats did not differ from those in the front rows. In other words, distance did not significantly affect the judgments.

CHAPTER THREE

Experiment I

A Group versus a Minority of One

PROBLEM AND PROCEDURE

WHAT WOULD be the effect on the judgment of an individual child when a majority of the group of which he is a member unanimously gives wrong judgments regarding simple perceptual materials? Would such a child yield to group influence and change his judgments or would he conform to the group? What would be the reaction of a child to such a situation?

From a total of 240 children who participated in the control experiment only 90 of these children, ranging in age from seven to thirteen years and selected from grades two to seven, served as critical subjects in this experiment. Thirty-eight of these children came from classes with an average I.Q. whereas 52 were taken from the so-called "opportunity classes" where the I.Q. was 130 and above.¹ Of the nine classes that participated the 8 bright children in each class served as the "majority." The 10 "minority" subjects of each class were selected by their teacher, 5 for such personality traits as leadership and independence and the remaining 5 for submissiveness and meekness. The two sexes were equally represented.

The children were presented successively with twelve pairs of cards, a standard containing a single line and a comparison card with three lines, one of which was equal in length to the standard. The task consisted in identifying that comparison line which was equal to the standard. The lines were made by pasting black tape, $\frac{1}{4}$ inch wide, on white cards, $17\frac{1}{2}$ by 6 inches. The three lines of a comparison card were numbered from left to right. In each case a

¹ The average I.Q. range was from 75 to 130 and was obtained from group tests such as the Pintner-Cunningham, the Otis Alpha, or the California Mental Ability Test. The children in the opportunity classes had all been given the Stanford-Binet Intelligence Test.

standard and a comparison card were presented on the ledge of a blackboard, 3 feet apart, the standard to the right.

Previously, these children had performed the same task in control experiments with their respective classes.² Now, the same task was repeated with one essential change in the conditions. Eight of these children, or the so-called "majority," were under instruction to give false answers on seven out of the twelve lines. These seven lines will be referred to as "critical lines." In Table 1 are given the lengths of the lines as well as the incorrect answers of the majority.

TABLE 1

LENGTHS OF STANDARD AND COMPARISON LINES AND THE RESPONSES OF THE CO-OPERATING GROUP

Trials	Length of Standard Line	Length of Comparison Lines			Correct Answers	Group Answers ^a
		FIRST	SECOND	THIRD		
1	<i>7½</i>	5	5¾	7½	3	3
2	5	6½	7	5	3	3
3	8	8	7	6	1	2
4	3½	3¾	5	3½	3	1
5	9	7	9	11	2	2
6	6½	6½	5¾	7½	1	3
7	5½	4½	5½	4	2	1
8	1¾	2¾	3¾	1¾	3	3
9	2½	4	2½	3¾	2	3
10	8½	8½	10¼	11	1	2
11	1	3	1	2¼	2	2
12	4½	4½	3½	5½	1	3

^a The italic figures in this column refer to the false responses of the group.

On the day of the experiment those children who were to serve as critical subjects were sent to another classroom and were told by their teacher to stay there all day for special work. The experimenter then led the eight majority children to another classroom while the teacher remained with those who were not participating in the experiment.

To the majority the experimenter explained the purpose and procedure of the experiment and stressed the need for their full co-operation. To the child who was usually selected by the group as

² The control experiments were performed in all grades that were to participate. The time interval between the control and the critical experiment varied for the different grades.

the most reliable and careful the experimenter gave a typewritten copy of the answers he was to give in their sequence. The other seven children were instructed to follow him in their responses. All were given copies ³ of the questions they were to ask in the discussion that was to follow the judgments. The experiment as well as the discussion were carefully rehearsed.

Each critical subject was brought by a monitor to the experimental room where he found the eight majority children waiting in line outside of the room, with their books under their arms. The impression was thus created that the entire group was just entering the classroom. The child in the fifth seat had been instructed to make sure that the minority child was seated in the seat beside him, the sixth.

Presenting the first pair of cards, the experimenter addressed the group, saying: "You will remember I showed you these lines before. I have here at the right one line. On the other side I have a card with three lines. You see that the three lines are not the same size. You also see that the lines are numbered one, two, and three. There is one line among these three that is just as long as the one line on this card [pointing to standard]. When I put up the two cards, you will not write your answers as you did last time, but each of you will stand up and give his answer out loud."

The twelve pairs of cards were thus presented and the responses of each child were recorded on a previously prepared chart.⁴ After all the judgments had been given, the experimenter opened the discussion.

If the minority child did not follow the group, the experimenter started by saying: "Was this a hard test?" Invariably receiving a negative reply to this, the experimenter continued: "Yes, these are simple lines, and yet you didn't all agree. What happened?" At this point the majority children, as previously instructed, turned upon the minority child with the following:

1. "You gave different answers."
2. "What was the matter?"

³ These copies were used for purposes of instruction but were not in evidence during the experiment.

⁴ Of course, only the answers of the minority children were tabulated, those of the majority having been prearranged.

3. "Why did you give these answers?"

4. "Who do you think was right, you or we?"

If the minority child said he was right, he was confronted with the question: "Was everyone else wrong?" If, on the other hand, the child said he was wrong, the majority demanded that he explain why he did not give their answers. In the interest of spontaneity the exact order of the questions could not be rigidly set in advance, since they depended so much upon the replies and the behavior of the critical child.

If the minority child would not admit that the group was wrong, the experimenter said: "You were right and they were wrong seven times." The reaction to this information was observed, and then the actual purpose of the experiment was revealed.

If the minority child had responded with the group, the experimenter started the discussion by saying: "Were you all sure of your answers? Was there any time when you felt like giving a different answer?" If the minority child did not reply to these questions, the experimenter put up two or three of the pairs on which the child followed the group and said to the minority child: "I am not sure I got all your answers right. Only you answer now." When the answers were recorded and the child's behavior noted, the experimenter took him out of the room and said: "Before you go back, I would like to ask you a few questions about this test. Let's go into this room." The experimenter then asked some of the following questions: "Were you sure of your answers? You gave different answers now than you did before. Which were right? If the other children were not there, would you have given the same answers? Why did you give the same answers? Did you doubt what you saw? How did you feel?"

At the end of the interview the experimenter explained the purpose of the experiment and observed the pupil's reaction to this information. The experimenter elicited from each critical child a promise⁵ to keep the secret and led him back to his own classroom.

Before we present the quantitative results, it will be relevant to

⁵ Five out of the total number of critical subjects admitted having heard about the "secret." The dynamics of the experimental situation were so strong that this knowledge in no way affected their behavior.

describe the atmosphere of the group experiments. By frankly discussing with each majority group, even the very young ones, the purpose and the implications of the experiment, we were able to secure their enthusiastic and complete co-operation. These children felt honored being chosen to help and realized the importance of their role in the experiment. They offered many suggestions, often valuable ones, on procedure; and when the teacher proved a poor judge in the selection of the minority children, the majority objected and by a vote designated those to be called in as critical subjects. They were also the ones who by a vote decided whether a child was reliable and could be trusted with the "secret" (purpose) of the experiment. True, to the younger children the procedure remained a game, but a very serious one indeed. They watched with interest and concern the behavior of each minority child and expressed disappointment when one whom they considered very bright yielded to group pressure. In the group discussion the majority turned with considerable fervor and such force on the dissenter that the latter was often brought to tears or to an open accusation that the majority gave wrong answers. As one youngster of eight put it when pressed by the group: "I wouldn't have took the answers if I didn't think it was right. Why are you asking me all these questions?" Or another: "I was just making up my mind. At least you must give a guy a chance to make up his mind."

If, as was often the case among the younger ones, the minority child admitted being right but could not bring himself to say that the majority was wrong, the others would challenge him on his lack of logic, pointing out that if he believed the others to be right he should have given their answers. The few who stubbornly insisted that theirs were the right answers were really put to test by their classmates who would point out indignantly that eight could not be wrong and one alone right. This led on several occasions to spontaneous discussions of a more general nature.

With all classes the experimental situation was so real and so dynamic that even among the older children there was never a trace of suspicion nor any doubt that the situation was serious and important, even though very puzzling and strange.

RESULTS

Our first task is to examine the evidence concerning the magnitude of the group effect upon the critical children. In examining the data, we shall compare throughout the experimental results with the corresponding control data. We shall also find it necessary to deal separately with results of the younger and of older children. In the younger group we include those between the ages of seven up to but not including the age of ten. In the older group we include those who have reached the age of ten and older.

It will be helpful to examine first how strongly the individual children were affected by the group conditions. The relevant results are reported in Table 2. In this table we include the frequencies with which the children followed the group. The corresponding results are presented graphically in Figure 1.

It will be noted that the effect of group conditions was indeed strong. Table 2 shows further that the effect of the majority was more pronounced on the younger than on the older children. Out of the maximum score of seven, the younger children followed the group 3.5 times on the average, the older children 2.5 times. Fully 26 per cent of the younger children followed the group throughout with only 7 per cent remaining independent in all their responses. Of the older group, on the other hand, only 12 per cent gave the incorrect group answers throughout and 20 per cent never followed. Considering the extremely clear character of the task and also the relatively high accuracy of the childrens' judgments under the control conditions, we have to conclude that the group exerted an effect of considerable magnitude.

At the same time we note a remarkable range of individual differences. The "group" responses of the children range from zero to the maximum of seven. One third of the entire group is to be found at the two extreme points (point zero and seven) while the remainder of the group is distributed through the intermediate points of the scale.

An examination of the percentages of correct responses to the lines considered individually adds support to our preceding con-

TABLE 2

FREQUENCY OF "FOLLOWING" RESPONSES ON CRITICAL LINES
EXPERIMENT I

Number of Times "Following"	Younger Children Seven to Ten		Older Children Ten to Thirteen		Total "Following"	
	NUMBER	PER CENT	NUMBER	PER CENT	NUMBER	PER CENT
0	3	7	11	20	14	15.5
1	7	18	7	13	14	15.5
2	4	11	8	15	12	13
3	4	11	4	8	8	9
4	4	11	6	12	10	11
5	4	11	4	8	8	9
6	2	5	6	12	8	9
7	10	26	6	12	16	18
Total	38	100	52	100	90	100
Average	3.5		2.5		2.7	

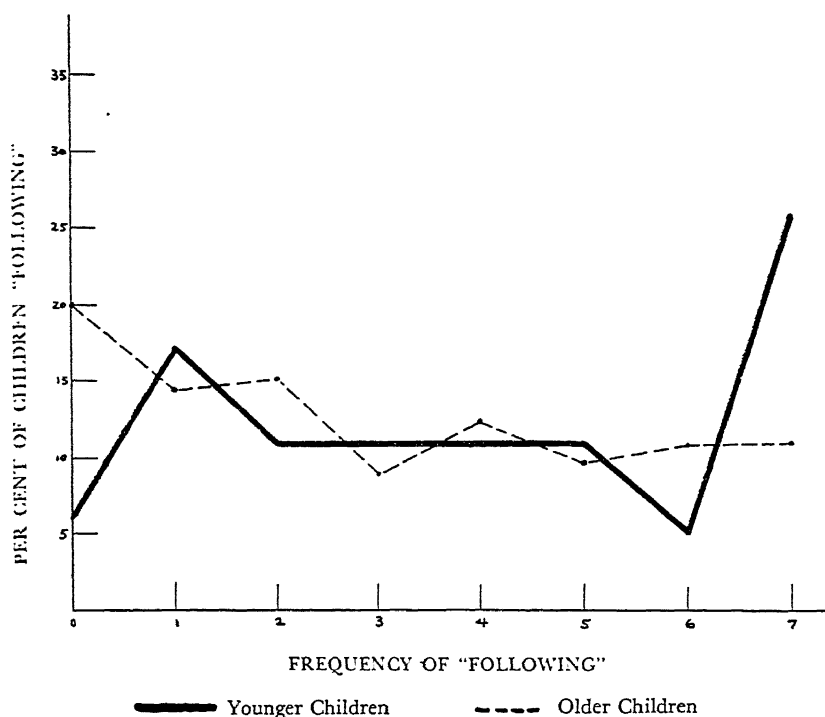


Fig. 1. MAJORITY VS. MINORITY OF ONE

clusions. These are reported in Tables 3 and 4 and represented graphically in Figures 2 and 3.

TABLE 3

DISTRIBUTION OF "GROUP" RESPONSES TO EACH CRITICAL LENGTH
YOUNGER CHILDREN, SEVEN TO TEN ($N = 38$)

Control Experiment			Critical Experiment							
Critical										
Lines in										
Order of										
Presen- tation	Correct		Independent		Group		Independent		Total	
	Answers		Correct		Answer		Incorrect		Inde- pendent ^a	
	NUM-	PER	NUM-	PER	NUM-	PER	NUM-	PER	NUM-	PER
	BER	CENT	BER	CENT	BER	CENT	BER	CENT	BER	CENT
Third	34	89	13	34	20	53	5	13	18	47
Fourth	38	100	21	55	17	45	0	0	21	55
Sixth	32	84	12	32	26	68	0	0	12	32
Seventh	34	89	19	50	18	47	1	3	20	53
Ninth	38	100	20	53	16	42	2	5	22	58
Tenth	34	89	14	37	24	63	0	0	14	37
Twelfth	37	97	15	40	21	55	2	5	17	45
Average		93		43		53		37		43
Noncritical										
Lines in										
Order of										
Presen- tation	Correct		Independent		Group		Independent			
	Answers		Correct		Correct		Incorrect			
	NUM-	PER	NUM-	PER	NUM-	PER	NUM-	PER		
	BER	CENT	BER	CENT	BER	CENT	BER	CENT		
First	38	100	0	0	38	100	0	0		
Second	38	100	0	0	38	100	0	0		
Fifth	31	82	0	0	38	100	0	0		
Eighth	37	97	0	0	38	100	0	0		
Eleventh	38	100	0	0	38	100	0	0		
Average		95				100				

^a This column is the sum of the "Independent Correct" and the "Independent Incorrect" columns. For purposes of the experiment answers different from those of the majority were termed "Independent" whether correct or incorrect.

The critical lines were responded to correctly by 93 per cent of the younger children under control conditions and by only 43 per cent of the same children under the pressure of the group. Of the older group, 94 per cent gave correct answers to the critical lines in the control experiment, whereas only 54 per cent did so in the critical experiment.

TABLE 4

DISTRIBUTION OF "GROUP" RESPONSES TO EACH CRITICAL LENGTH
 OLDER CHILDREN, TEN TO THIRTEEN (N = 52)

<i>Control Experiment</i>			<i>Critical Experiment</i>							
Critical Lines in Order of Presen- tation	Correct Answers		Independent Correct		Group Answer		Independent Incorrect		Total Inde- pendent ^a	
	NUM- PER		NUM- PER		NUM- PER		NUM- PER		NUM- PER	
	BER CENT		BER CENT		BER CENT		BER CENT		BER CENT	
Third	47	90	25	48	21	41	6	11	31	59
Fourth	52	100	36	69	16	31	0	0	36	69
Sixth	48	92	21	41	31	59	0	0	21	41
Seventh	50	96	31	59	21	41	0	0	31	59
Ninth	52	100	35	67	17	33	0	0	35	67
Tenth	49	94	20	38	32	62	0	0	20	38
Twelfth	44	85	31	59	21	41	0	0	31	59
Average		94		54		44		1.5		56

Noncritical
Lines in
Order of
Presen-
tation

	Correct Answers		Independent Correct		Group Correct		Independent Incorrect	
	NUM- PER		NUM- PER		NUM- PER		NUM- PER	
	BER CENT		BER CENT		BER CENT		BER CENT	
First	52	100	0	0	52	100	0	0
Second	52	100	0	0	52	100	0	0
Fifth	49	94	0	0	50	96	2	4
Eighth	51	98	0	0	52	100	0	0
Eleventh	52	100	0	0	52	100	0	0
Average		98				99		

^a See note to Table 3.

If we consider first the results concerning the younger group (see Table 3 and Figure 2), the following conclusions seem warranted.

1. All lengths were affected by the group conditions. Table 3 shows more errors for each length under critical than under control conditions.

2. The frequency of incorrect group responses in the critical experiment is as great as the frequency of all other categories of responses, 53 per cent as against 47 per cent.

3. The different lines are differently affected by the experi-

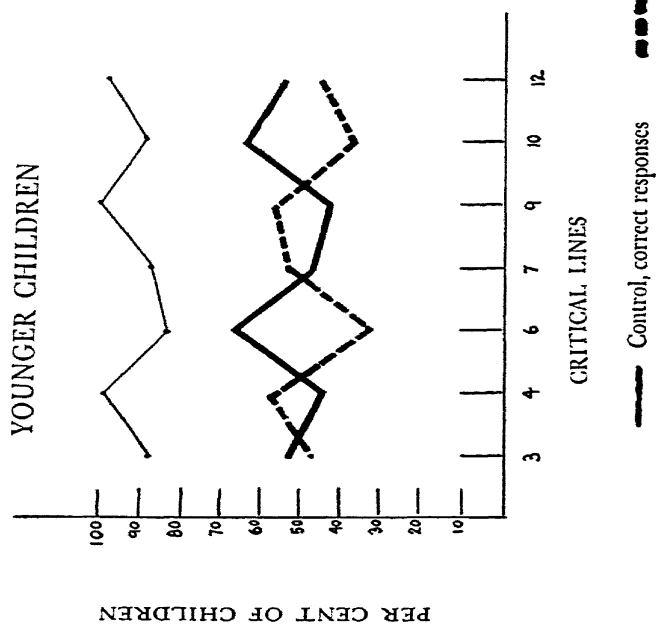


Fig. 2. MAJORITY VS. MINORITY OF ONE

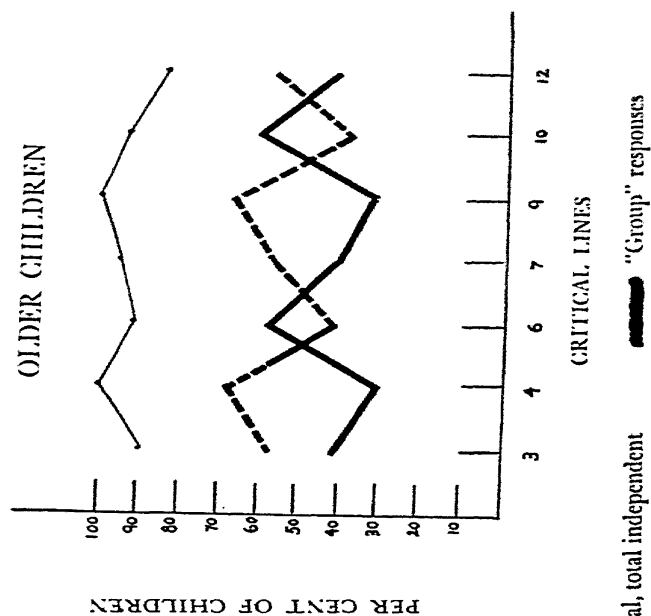


Fig. 3. MAJORITY VS. MINORITY OF ONE.

mental conditions. It is of interest to note that the lengths most sensitive to the group factor were also those that under control conditions produced the greatest incidence of errors. Thus, on the sixth pair of lines, which 84 per cent of the younger and 92 per cent of the older judged correctly in the control experiment, only 37 per cent of the entire group of ninety children judged correctly when group pressure was introduced. The same holds for the tenth pair on which 89 per cent of the younger and 94 per cent of the older gave correct judgments under control conditions, but only 38 per cent did so when facing a disagreeing majority. The reader will note the consistent correspondence between the control and the group curves of Figure 2.

The same holds, though to a lesser extent, for the older children. They exhibit a greater accuracy of judgment under control conditions and correspondingly a lesser tendency to yield to the group. Figure 3 shows, however, the same parallelism noted in Figure 2 between the control and critical curves. On the sixth and tenth pairs of lines only 41 and 38 per cent of the older children gave correct judgments in the experimental situation. The results suggest that the extent of group influence is a function of the ease of discrimination. With this problem we shall be concerned later.

THE EFFECT OF AGE

An examination of the preceding tables and figures reveals certain differences between the younger and older groups. There seems to be a tendency for the younger children to be more affected by the group pressure, and this tendency applies to each of the critical lines. It would be of interest to ascertain whether the differences between the two age groups are statistically significant. To decide this question we have calculated the significance of the difference between:

1. The correct responses of both age groups under control conditions;
2. The independent correct responses of the younger and the older children;
3. The "group" answers of the two groups—

a) Though, as we have mentioned before, the older children give more accurate judgments than the younger even in the control situation, this difference is not statistically significant ($t = .5$).

b) When judging under group pressure, the difference between the independent correct responses for both age groups is statistically significant ($t = 2.75$).⁶

c) There is a considerable difference in the amount of following between the two age groups, but it is not statistically significant ($t = 2.25$).

To ascertain the degree of the group effect upon the judgments of the younger as well as of the older group we have also calculated for each the critical ratios of the differences between the correct responses in the control and those in the critical experiments. Here we find that the effect of the group influence is a statistically significant one and is equally great for both age groups, the respective critical ratios being 14.29 for the younger and 13.33 for the older children.

I.Q. AND FOLLOWING

To see whether there is any relationship between brightness and frequency of following at the various age levels tested, we constructed Table 5. We have also calculated the significance of the differences in order to see whether they are statistically significant.

There is no significant difference in the frequency of following between the younger children with I.Q.s of 130 and above and those of average I.Q. ($t = .93$). Nor is this difference significant for the older bright and average children ($t = .61$). The critical ratio between the older children from the opportunity classes and the younger ones from average classes is larger ($t = 1.30$) but still not significant. Inspection of Table 5 confirms these results. Twenty-eight per cent of the older bright children never followed the group and only 4 per cent followed throughout. Of the average younger children none remained entirely independent of the group, and

⁶ The probability that a "t" as large as 2.75 could occur from sampling variations is only one in 100 or one per cent. When "t" is 3.0 then the probability that the difference between the two means is due to chance variations in the selection of the samples is 3 in 1,000.

as many as 55 per cent completely yielded to group pressure. Here again, as in Table 2, we note however, a remarkable range of individual differences especially in the middle of the distribution.

TABLE 5

FREQUENCY OF "FOLLOWING" RESPONSES ON CRITICAL LINES FOR
OPPORTUNITY AND AVERAGE CLASSES

Number of Times "Following"	5 Opportunity Classes (N = 52)				4 Average Classes (N = 38)			
	Younger Children		Older Children		Younger Children		Older Children	
	Seven to Ten		Ten to Thirteen		Seven to Ten		Ten to Thirteen	
	NUM- BER	PER CENT	NUM- BER	PER CENT	NUM- BER	PER CENT	NUM- BER	PER CENT
0	4	15	7	28	0	0	4	15
1	3	11	3	12	3	27	4	15
2	5	18	3	12	0	0	4	15
3	3	11	3	12	0	0	2	7.5
4	3	11	3	12	1	9	3	11
5	4	15	2	8	0	0	2	7.5
6	1	4	3	12	1	9	3	11
7	4	15	1	4	6	55	5	18
Total	27	100	25	100	11	100	27	100

No significant difference is found between the younger and the older children of average I.Q. ($t = .83$) nor between the younger children from the opportunity classes and the older ones from average classes ($t = .11$). The bright children, younger and older, are found to be equally affected by group pressure ($t = .55$).

Because the number of cases is limited, the trend of the results is only suggestive. We call attention to them because further study of this problem may be of importance.

TEACHER'S CHOICE AND FREQUENCY OF FOLLOWING

Will children who were judged to be independent by their teachers follow less than those found to be submissive? Table 6 gives no clear-cut answer to this question. Those judged submissive in the classroom situation often exhibited more independent behavior than some of the children known for their leadership and self-reliance. Of course, the number of cases is too small to draw any conclusions from our results.

TABLE 6

TEACHER'S CHOICE AND FREQUENCY OF "FOLLOWING" ($N = 90$)

"Following" Scores	<i>Independent</i>		<i>Submissive</i>	
	Seven to Ten	Ten to Thirteen	Seven to Ten	Ten to Thirteen
0	3	5	2	6
1	3	3	2	4
2	1	6	4	1
3	1	2	2	3
4	1	2	5	4
5	2	4	1	1
6	0	3	1	2
7	9	1	1	5
Total	20	26	18	26

QUALITATIVE DIFFERENCES BETWEEN YOUNGER AND OLDER CHILDREN

Our observations of the behavior of the two groups seems to correspond to the quantitative results on the younger and older children. Among the younger children of seven to ten years there was little if any personal involvement—the situation at all times remaining remote. It was noted that whereas the older children would, for many days, discuss the experiment, the younger children, upon their return to their classrooms, did not talk about it either among themselves or with their respective teachers. Some of the younger children in the majority, in spite of the fact that they understood the directions and the purpose of the experiment, found it very difficult to give the wrong, prescribed answers.

On two occasions, when the objective situation was particularly clear, three children in the two lower grades found themselves compelled to give the correct response saying later: "I just couldn't help it." It is interesting to note that these three children were among the brightest pupils in the class.

A greater dependence on the group was noted among the younger children than among the older ones (see quantitative results).

This is well expressed in the answers given by the two age groups to the question: "Why did you give the same wrong answers as the group?" The most frequently heard explanations offered by the younger children were: "They all said the same number"; "I

thought I should give the same answers as the other children"; or "If so many people said it, it might be right."

Children of ten and older expressed an entirely different attitude toward the group. Asked to explain their behavior in the experimental situation, most would offer the following: "I have my opinion, they have theirs"; "I thought I was right, they thought they were"; or "The answers I gave suit me"; "I thought they were right, but some of theirs were all right"; "In my opinion the ones I gave I thought I was right, and every time I gave a different answer they all looked at me."

It was almost impossible for a younger child to admit, even under pressure, that he "copied," whereas among the older ones many readily conceded that they did. The fear of copying was found to be very strong, especially among the younger children.⁷ It was also among the older children that the tendency to doubt the adequacy of one's eyes was observed. A youngster of twelve remarked: "My eyes could be different." Another said: "Maybe I don't see so good; maybe I need glasses." The younger children never expressed such doubts.

DISCUSSION

Since the results indicate a great deal of "following," this question arises: Did the children who gave the wrong group answers blindly follow the others? And if so, what were some of the motives that made them give the incorrect answers of the majority against their own better judgment? Why did the younger children follow more than the older ones? What did the experimental situation mean to them?

Our qualitative observations as well as the individual protocols in the interviews and group discussions point to a number of factors that operated in the situation and that throw light on the behavior of the minority children.

1. Despite the prevailing hypothesis that it is natural and easy

⁷ It is interesting to note that copying as such was not considered bad in itself but definitely dependent on the general atmosphere in the classroom and the teacher's role in it. Thus, in two grades (the third and sixth) where the respective teachers were considered unfair and incompetent by the children, the pupils prided themselves on copying and not being caught.

to follow a group, we found quite the contrary to be the fact. It was *not* easy for these children to "follow." It was interesting to observe the reaction of the minority children to the wrong answers of the group. Lulled into security by the first two correct responses, each met the third (first wrong) answer with shock and bewilderment. Many a child would stand up in his seat, rub his eyes, look at all the others and then at the lines with a puzzled, embarrassed, and frightened expression on his face. Each child, without exception, felt ill at ease, fidgeted in his seat, or smiled uncomfortably at the others and at the experimenter. Many would whisper the right answer and turn to a neighbor for assurance. Some, after a few wrong group answers, would grow apathetic and look at the others in the group for the answer rather than at the lines. The situation was too puzzling; and being unable to explain it, they resigned themselves to it. There was always a note of relief when the majority gave a correct response.

So-called "following" was, therefore, not easy. All children admitted that they had a strong desire to express their own judgment and that it was easier to give an answer on which all agreed than those known to be wrong. They also reported feeling better when they gave their own answer even if in disagreement with the majority.

Here are some of the comments made by the children in answer to the question "How did you feel during the test?"

A seven year old said: "I felt funny. I know it will be silly, but when they said an answer and I didn't think it was right, I felt like my heartbeat went down." A little girl of eight who followed the group completely said: "I didn't feel right. I kinda felt like giving my own but I don't know why I didn't." A more sophisticated eleven-year-old boy explained: "After I gave the answers, I felt like changing but didn't think it was proper." A boy of eight and one-half who gave all the wrong group answers offered this explanation in his own defense: "I know they were wrong, but it was like a jury—we were nine and I was the only one against eight. The majority wins. Besides, how could I prove I was right?" A girl of eleven said: "I had a funny feeling inside. You know you are right and they are wrong and you agree with them. And you still feel you

are right and you say nothing about it. Once I gave the answer they didn't give. I thought they would think I was wrong. I just gave their answers. If I had the test alone, I wouldn't give the answers I gave." A nine-year-old boy who remained independent in his judgments in spite of group pressure said in the discussion: "I wanted to be like the rest, but then I thought it was correct to say the right answer. It would have been easier to give the same, but then it didn't look right." The same boy tried to explain why many children would follow under these conditions: "If you do too much disagreeing, people will think that you always disagree and get the wrong impression."

2. The fear of being accused by the others of wanting to be "different" was prevalent in both younger and older groups. "Some would go with the majority because they wouldn't want to be outcasts. Children don't like to be outcasts, to seem different," said a boy of ten years. A girl of nine explained: "I was very embarrassed when they laughed at me. They were looking at me." A twelve year old said: "I thought maybe the kids will think I wanted to be different than anybody else."

3. There is a more positive factor at work here—a very strong need to remain a member of one's group. In the experimental situation where the minority child in being seated sixth was physically made a member of the group and yet psychologically found himself at odds with the others, his position was a particularly difficult one.

4. There was also the question of the childrens' faith in the ability of either the entire group or in particular members of the group. We must not forget that the majority was composed of the eight brightest children in each class! The minority child, therefore, had to meet the impact of a unanimous majority, one that was composed of people whom he knew to be "smart." Also, this majority did give right answers sometimes! This was especially difficult for those who in the opinion of the class and the teachers were the brightest in their class. They, irrespective of age, were brought to tears during the discussion and the interview, and were the only ones to become most personally involved. For them not only membership in the group was at stake, but their position in it was endan-

gered. Even after the purpose of the experiment was revealed, they did not feel relieved.

5. Contrary to the classical hypothesis that a majority is always felt to be right, most of our minority children admitted upon questioning that the majority was giving wrong answers and that they fully realized it but that they couldn't understand why their classmates whom they knew to be "smart people" should give wrong answers on such simple material. Among the older children reference was often made to a particular member of the majority who was especially noted for being smart and right most of the time. This child was not necessarily the first to give the answers. The feeling was, however, that even if the others "copied" *this one* would give his own. His adherence to the group only strengthened the confusion and uncertainty and the conviction of the minority child that the majority might be right. In other words, the particular situation seemed to conflict with their knowledge of and faith in their friends. In the light of this knowledge it was much easier to doubt one's own judgment than that of eight other children. This was well expressed in such statements: "I thought they knew. I was surprised at these children because some of them are very smart." "I thought, Why should these smart children be so stupid?" said a ten-year-old girl. An eleven-year-old boy gave the following explanation of the situation: "I was surprised. I thought when all children give wrong answers, something is wrong. Because I was right, they must be wrong. That's what I am worried about. These kids . . . they all couldn't be wrong . . . and yet I know I am right." Another youngster of twelve and one-half said: "R— and S— are usually very smart. They were so sure. . . . They were all giving the same answer."

6. Following, as we have seen from the quantitative results, also depended on the clarity of the objective situation and was a function of the ease of discrimination of the lines presented for judgment. As an eleven-year-old child put it: "When I had to decide between two numbers and I wasn't sure and heard the others, I thought it was eight to one. When everybody says one thing, it has an influence on you." A thirteen year old commented: "When I wasn't sure of

myself, then I was inclined to agree with them." All, however, reported that it was easier to "follow" on the "tall" lines than on the short ones on which the answers were "easy." In other words, where the situation is ambiguous and not very clear-cut, one is more apt to *accept* the opinion of a unanimous majority than when the situation is clearly structured. In the first instance in fact, the children did not feel that they "copied" or "followed." They merely admitted that they were uncertain of the right answer. It is only in the clear-cut situations that "copying" as such was admitted.

7. The quantitative as well as the qualitative results point to a greater tendency on the part of younger children than of the older ones to depend on their classmates. This is, in part, due perhaps to the fact that in the lower grades the children stay with the same teacher over a period of two or three years. Also, to the younger child the school experience is an important and integral part of his life, and his classmates are usually also his play companions. Especially in classes where the activity program is in operation, the great amount of co-operative activity leads perhaps to greater independence and greater psychological cohesiveness of the group as a whole, but it also tends to make the individual child very dependent upon the others in his class.

To children of ten and older school is undoubtedly still very important, but instead of group loyalty we find that individual ties and friendships play a more important role. Thus, among the older children we found more reference to specific individuals than to the group as a whole.

In conclusion we must say that though the children did follow the group significantly, in doing so they were affected by very real factors in the situation and not by blind faith in the majority or an instinct to imitate.

SUMMARY

When an individual child is confronted with a majority of eight of his own classmates giving unanimous, incorrect judgments on simple perceptual material, the following effects are observed:

1. There is a statistically significant change in the judgments of the minority children in the direction of the group.

2. Younger children tend to follow the group more than do the older ones. Twenty six per cent of the minority children of seven to ten years of age followed the group throughout, with only 7 per cent remaining independent. Of the older group only 12 per cent gave the incorrect group responses throughout, and 20 per cent never followed.

3. Further confirmatory evidence of the preceding conclusions is to be observed when we examine the nature of the responses to the individual critical lengths.

a) All lengths are affected by the group conditions.✓

b) The frequency of incorrect group responses is as great as the frequency of all other responses.

c) The different lines are differently affected by the experimental conditions: the lengths responding to the group factor most were also those that under control conditions produced the greatest incidence of errors.

d) There is no significant relation between I.Q. and the amount of following nor I.Q., age, and the tendency to follow.

e) There seems to be no observable relationship between the teacher's evaluation of the children's behavior on such personality traits as leadership and meekness and their ability to withstand or yield to group pressure.✓

f) Though the children, both younger and older, followed the group significantly, in doing so they were affected by very real factors in the situation rather than by blind faith and/or an instinctive need to imitate. Some of these factors are: (1) the children's faith and knowledge of the ability of either the entire group or of particular members of the group; (2) the lack of structurization and the resulting confusion and astonishment of the minority children; (3) the need for group-belongingness; (4) the strong feeling that the majority is wrong but also an inability to explain their behavior; and (5) fear of being accused of wanting to be different.

CHAPTER FOUR

Experiment II

Teacher versus Child

PROBLEM AND PROCEDURE

GRANTED that a majority of peers exercises a strong influence on the judgments of an individual child, what will be the effect on a child's judgments if his teacher gives wrong answers? Since the teacher is an adult of importance to the child, and since prestige is relevant to her role in the classroom, will the child accept the judgments of the teacher as right and change his own? Will he go against the teacher? What will the reaction to such a situation be?

Of the 173 children who participated in the control experiment, only 76 children ranging in age from seven to thirteen years and selected from grades two to seven served as the critical subjects in this experiment. In each of these classes the active participation of the teacher was secured. As before, the critical subjects were chosen by their teacher on the basis of such personality traits as leadership and independence, on the one hand, and submissiveness and meekness, on the other. In each class at least ten children, and in some classes fifteen, served as critical subjects, of which half were judged to be aggressive and independent, the other half passive. The two sexes were equally represented.

The task consisted of the twelve pairs of lines used in Experiment I and described in Table 1. The subjects had, of course, responded to these lines with their respective classes under control conditions. Now the same lines were shown again, but this time to an individual child and his teacher, with the latter under instructions to give false answers to seven out of the twelve lines (see Table 1).

In the critical experiment every response other than that of the teacher was termed "independent" and for purposes of the experiment denoted "no following."

A day prior to the critical experiment, the teacher was instructed to place the ten or fifteen critical children in one class and the rest in another.

On the morning of the experiment, when the experimenter entered with the first child, the teacher was found writing. The teacher addressed the entering child, saying: "Miss B— wants you and me to look at some lines. Let's sit down here [third or fourth row]. I will answer first and then you."

Putting up the sample pair of cards on the ledge of the blackboard (3 feet apart), the experimenter said: "You will remember that I showed you these lines before. I have here at the left one line. On the other side, I have a card with three lines. You see that the three lines are not the same size. You also see that the lines are numbered one, two, three. There is one line in these three that is just as long as the one line on this card [pointing]. When I put up the two cards, your teacher will give her answer out loud, and then you give yours."

After the presentation of the twelve pairs of cards, the teacher excused herself and left the room. The experimenter then turned to the child and asked: "Did you like this test? Was it hard?" If the child disagreed with the teacher, the experimenter said: "You gave different answers from the teacher. What happened? Who was right?" If the child said, "Teacher," the experimenter then said: "What makes you think so? Why didn't you give the same answers then? Who was right more often? Which answers was it easier for you to give—when you agreed or when you gave different ones? Did you feel like giving the same answers as the teacher?"

If the child followed the teacher, the experimenter asked these questions: "Was it hard for you to give these answers? Were you sure of your answers? Do you think you were right?"

The purpose, of course, was to get the child to admit that he followed, and then the experimenter would ask: "What is the right thing to do when you see that the teacher gives wrong answers?"

At the end of the interview the experimenter explained the purpose of the experiment and asked each child to help with the work by not divulging the secret to the others in the school. Each child, before being conducted to the room in which were those of his

classmates who were not participating in the experiment, was thus made to feel that he was a partner in this enterprise.

RESULTS

Did any child follow the teacher completely on all seven critical lines? The answer to this question is found in Table 7.

Inspection of this table shows that the teacher exerted a very limited role on the whole. Of the seventy-six children not even one followed the teacher completely.

Though age played a role here, too, its effect was apparent far more in the frequency of following than in the amount. More than twice as many older children remained completely independent in their judgment than younger ones.

TABLE 7
FREQUENCY OF "FOLLOWING" RESPONSES ON CRITICAL LINES
EXPERIMENT II

Number of Times "Following"	Younger Children Seven to Ten (N = 47)		Older Children Ten to Thirteen (N = 29)		Total (N = 76) "Following"	
	NUMBER	PER CENT	NUMBER	PER CENT	NUMBER	PER CENT
0	19	40	24	83	43	57
1	15	32	3	10	18	24
2	9	19	1	3.5	10	13
3	4	9	1	3.5	5	6
4	0	0	0	0	0	0
5	0	0	0	0	0	0
6	0	0	0	0	0	0
7	0	0	0	0	0	0
Total	47	100	29	100	76	100

As many as 83 per cent of the group of older children were not affected by the teacher's wrong answers. Among the younger ones only 40 per cent remained independent. This trend remained consistent: to 32 per cent of the younger who followed the teacher once, only 10 per cent of the older did so; to 19 and 9 per cent of the younger, only 3.5 per cent of the older group followed the teacher two and three times, respectively.

The above findings are confirmed when we examine the nature of the responses to the individual critical lengths. These are reported in Tables 8 and 9 and Figures 4 and 5.

TABLE 8

DISTRIBUTION OF "TEACHER" RESPONSES TO EACH CRITICAL LENGTH
 YOUNGER CHILDREN, SEVEN TO TEN ($N = 47$)

<i>Control Experiment</i>			<i>Critical Experiment</i>							
Critical Lines in Order of Presen- tation	Correct Answers		Inde- pendent Correct		Teacher's Incorrect		Inde- pendent Incorrect		Total Inde- pendent *	
	NUM-	PER	NUM-	PER	NUM-	PER	NUM-	PER	NUM-	PER
	BER	CENT	BER	CENT	BER	CENT	BER	CENT	BER	CENT
Third	39	83	34	72	8	17	5	11	39	83
Fourth	47	100	46	98	0	0	1	2	47	100
Sixth	43	91	33	70	11	24	3	6	36	76
Seventh	44	94	40	85	6	13	1	2	41	87
Ninth	47	100	46	98	1	2	0	0	46	98
Tenth	42	90	28	60	15	32	4	8	32	68
Twelfth	33	70	40	85	4	8	3	7	43	92
Average		90		81		14		5		86

Noncritical Lines in Order of Presen- tation	Correct Answers		Inde- pendent Correct		Teacher's Correct		Inde- pendent Incorrect			
	NUM-	PER	NUM-	PER	NUM-	PER	NUM-	PER		
	BER	CENT	BER	CENT	BER	CENT	BER	CENT		
First	46	98	0	0	47	100	0	0		
Second	47	100	0	0	46	98	1	2		
Fifth	42	90	0	0	41	87	6	13		
Eighth	47	100	0	0	47	100	0	0		
Eleventh	47	100	0	0	47	100	0	0		
Average		98				97		3		

* This column is the sum of the "Independent Correct" and the "Independent Incorrect" columns. For purposes of the experiment answers different from those of the majority were termed "Independent" whether correct or incorrect.

Whereas 90 per cent of the younger children responded correctly to the critical lines under control conditions, only 81 per cent of the same children did so when in the presence of the teacher. The older children, on the other hand, when confronted with the wrong answers of the teacher, tended to be more accurate in their judgments. Thus, the mean per cent value for the correct responses under control conditions was 91 per cent, and 93 per cent in the

TABLE 9

DISTRIBUTION OF "TEACHER" RESPONSES TO EACH CRITICAL LENGTH
 OLDER CHILDREN, TEN TO THIRTEEN ($N = 29$)

<i>Control Experiment</i>			<i>Critical Experiment</i>							
Critical Lines in Order of Presenta- tion	Correct Answers		Inde- pendent Correct		Teacher's Incorrect		Inde- pendent Incorrect		Total Inde- pendent ^a	
	NUM-	PER	NUM-	PER	NUM-	PER	NUM-	PER	NUM-	PER
	BER	CENT	BER	CENT	BER	CENT	BER	CENT	BER	CENT
	25	86	26	90	0	0	3	10	29	100
Third	25	86	26	90	0	0	3	10	29	100
Fourth	29	100	29	100	0	0	0	0	29	100
Sixth	25	86	27	93	2	7	0	0	27	93
Seventh	26	90	26	90	3	100	0	0	26	90
Ninth	29	100	29	100	0	0	0	0	29	100
Tenth	28	96	26	90	3	10	0	0	26	90
Twelfth	22	76	26	90	2	7	1	3	27	93
Average		91		93		5		1.8		95

Noncritical

Lines in Order of Presenta- tion	Correct Answers		Inde- pendent Correct		Teacher's Correct		Inde- pendent Incorrect	
	NUM-	PER	NUM-	PER	NUM-	PER	NUM-	PER
	BER	CENT	BER	CENT	BER	CENT	BER	CENT
	29	100	0	0	29	100	0	0
First	29	100	0	0	29	100	0	0
Second	29	100	0	0	29	100	0	0
Fifth	27	93	0	0	28	97	1	3
Eighth	29	100	0	0	29	100	0	0
Eleventh	29	100	0	0	29	100	0	0
Average		99				99		

^a See note to Table 8.

experimental situation. When only 5 per cent of the older group gave the teacher's incorrect answers, 14 per cent of the younger yielded to her influence.

As in Experiment I, the different lines were differently affected by the experimental conditions. Here too the lengths responding to the prestige factor were also those which under control conditions produced the greatest incidence of errors. Teacher influence was apparent among the younger children on lines six, ten, and to a minor degree on line seven. On the sixth pair of lines 11, or 24 per

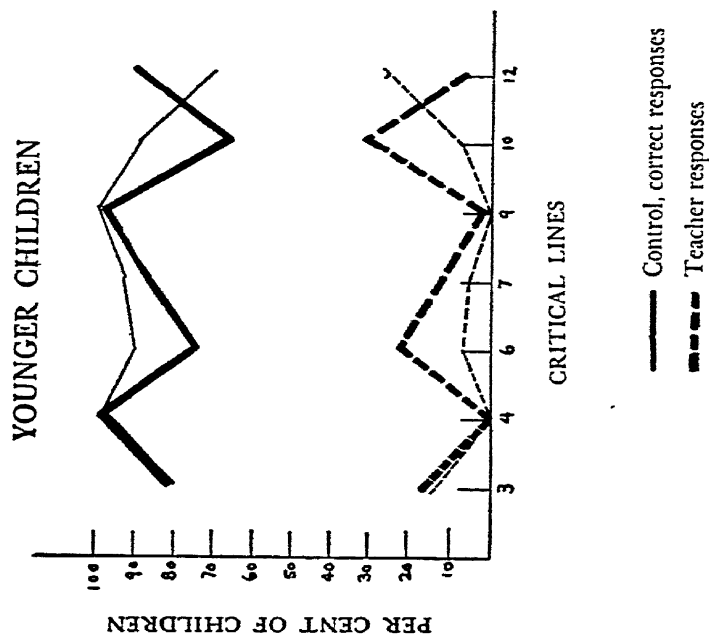


Fig. 4. TEACHER VS. CHILD

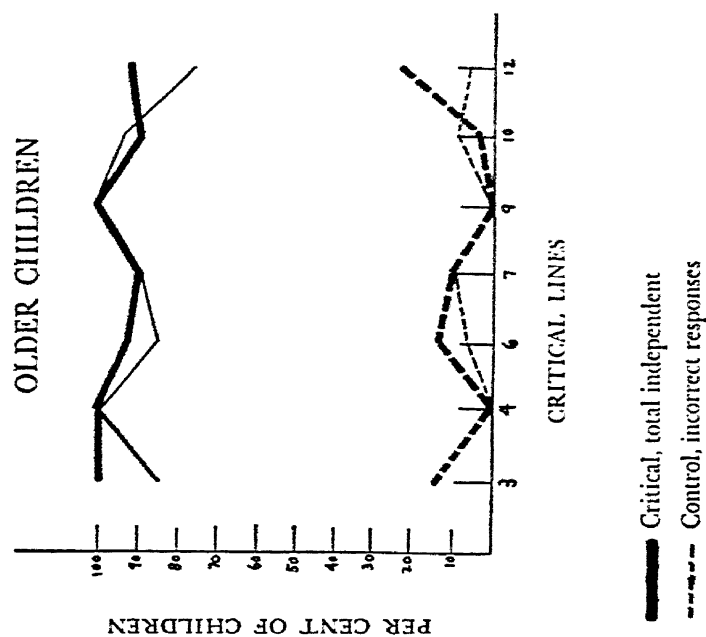


Fig. 5. TEACHER VS. CHILD

cent, of the forty-seven children gave the teacher's wrong answer. The tenth pair found 68 per cent of the children using independent judgment and 32 per cent "following." There was no "following" on the twelfth pair, as would have been expected from the control experiment. Again it is not clear why following failed to appear here since it cannot be explained by the objective situation alone.

The older children of ten to thirteen years were but slightly affected by the teacher's wrong answers, even on lines six and ten. In fact, fewer incorrect answers were given under experimental conditions than in the control situations! On line six, for example, four of the twenty-nine children, or 14 per cent, gave incorrect judgments in the control experiment, but in the critical experiment only two, or 7 per cent, accepted the teacher's wrong judgment. On the last pair of lines there was actually an improvement in judgment (as among the younger) as though the teacher's wrong answers acted as a challenge and an incentive to regard these lines that proved difficult more critically and to judge them more cautiously. This may well serve as an explanation for the inconsistent behavior of the subjects on the last pair of lines. For, even where the teacher gave a correct response to a set of lines that proved ambiguous ("tall") to the subject in the control experiment, the same difficulty was apparent under experimental conditions. These lines were met with hesitation and doubt and a puzzled expression as before. The fifth set (uncritical) of lines is an excellent example. Whereas 10 per cent of the younger and 7 per cent of the older judged these lines incorrectly in the control situation, 13 per cent and 3 per cent, respectively, still gave wrong answers on these lines in the critical experiment where the teacher gave a *correct* response.

Figures 4 and 5 make this point particularly clear. There is a very strong correspondence between the control and critical independent responses for both the younger and the older groups, with a marked improvement in accuracy of judgment on the part of the older children under critical conditions. There is also a parallelism in the two curves on the sixth and tenth lines and the unexplained improvement on the twelfth pair for both age groups.

The reader will note the correspondence between the incorrect responses given under control conditions and the amount of fol-

lowing in the critical experiment (lower curves). As we see, the extent of the influence of the prestige of the teacher on the judgments of the children is a function of the ease of discrimination, the teacher exerting a much greater influence when the material judged was of an ambiguous nature. Consistent with the results of Experiment I, the older children tend to again maintain greater independence.

Are these differences in the behavior of the two age groups statistically significant? To ascertain this, we calculated the critical ratios between: (1) the control correct and the independent correct responses for both younger and older children; (2) for the independent correct answers of the younger and older groups; (3) the teacher's incorrect answers for both age groups; and (4) the correct responses of the younger and older groups.

1. Consistent with our previous observations, we find a statistically significant difference between the correct responses of the younger children under control and under critical conditions ($t = 3.0$) and no significant difference in the judgments of the older group under these two experimental conditions ($t = .67$). In fact, the older children, as mentioned before, show an improvement in accuracy of judgment when confronted with the wrong responses of their teacher.

2. The difference between the two age groups in their ability to withstand the experimental factor (prestige) is also statistically significant yielding a critical ratio of 4.0.

3. Similarly, we find a significant difference in the number who accept the teacher's incorrect answers in the two age groups ($t = 4.5$).

4. However, there is no significant difference between the correct responses of the two age groups ($t = .33$). A note of explanation is necessary here concerning the last statement. As indicated before, in the critical experiment every response other than that of the teacher even if incorrect was termed "independent."

Of particular significance is the observation that the role of the teacher was drastically weaker than that of a majority of equals. A direct comparison of the results of Experiments I and II may be made in an examination of Table 10.

TABLE 10

COMPARISON OF EXPERIMENTS

Frequency of "Fol- lowing"	EXPERIMENT I <i>Majority vs. Minority of One</i>						EXPERIMENT II <i>Teacher vs. Child</i>					
	Seven to Ten		Ten to Thirteen		Total Following		Seven to Ten		Ten to Thirteen		Total Following	
	NUM- BER	PER CENT	NUM- BER	PER CENT	NUM- BER	PER CENT	NUM- BER	PER CENT	NUM- BER	PER CENT	NUM- BER	PER CENT
0	3	7	11	20	14	15.5	19	40	24	83	42	57
1	7	18	7	13	14	15.5	15	32	3	10	18	24
2	4	11	8	15	12	13	9	19	1	3.5	10	13
3	4	11	4	8	8	9	4	9	1	3.5	5	6
4	4	11	6	12	10	11	0	0	0	0	0	0
5	4	11	4	8	8	9	0	0	0	0	0	0
6	2	5	6	12	8	9	0	0	0	0	0	0
7	10	26	6	12	16	18	0	0	0	0	0	0

In comparing these results we must, of course, remember that the conditions in the two experiments were quite different. In Experiment II the child was confronted with one adult, whereas in Experiment I he faced the impact of the opinion of eight members of his class.¹

The results are clear. Since the task used in both experiments was the same, the differences in the results must be attributed to the different effect of the two experimental conditions on the judgments. There is a marked difference in the frequency as well as in the amount of following under the two experimental conditions. Disregarding age, we find that of the seventy-six subjects participating in the Teacher versus Child experiment (Experiment II) 57 per cent never accepted the teacher's incorrect responses. With children of the same age, confronting a majority of their own peers, only 15.5 per cent of the ninety children remained uninfluenced in their judgments. No child, in spite of the special role of the teacher in the classroom, ever followed her completely; but 18 per cent of the children facing a wrong majority were completely swayed by that majority and gave their wrong answers against their own better judgment.

¹ The only thing we can really compare in these two experiments is the influence that the prestige of a majority of peers has on judgment as against that of an adult in an authoritative position.

The reader will also note the remarkable range of individual differences in the behavior of the children in Experiment I and the great consistency in the behavior of the subjects in Experiment II. The group responses of the children, when facing the impact of a wrong majority, range to the full extent that the scale permits (with the mode at seven, or complete following). When confronted with the teacher, who is giving incorrect responses, the maximum following is on three lines, and the mode is at zero. The difference in the behavior of the two groups under the two experimental conditions was statistically significant ($t = 2.63$).

The same results are also graphically presented in Figure 6.

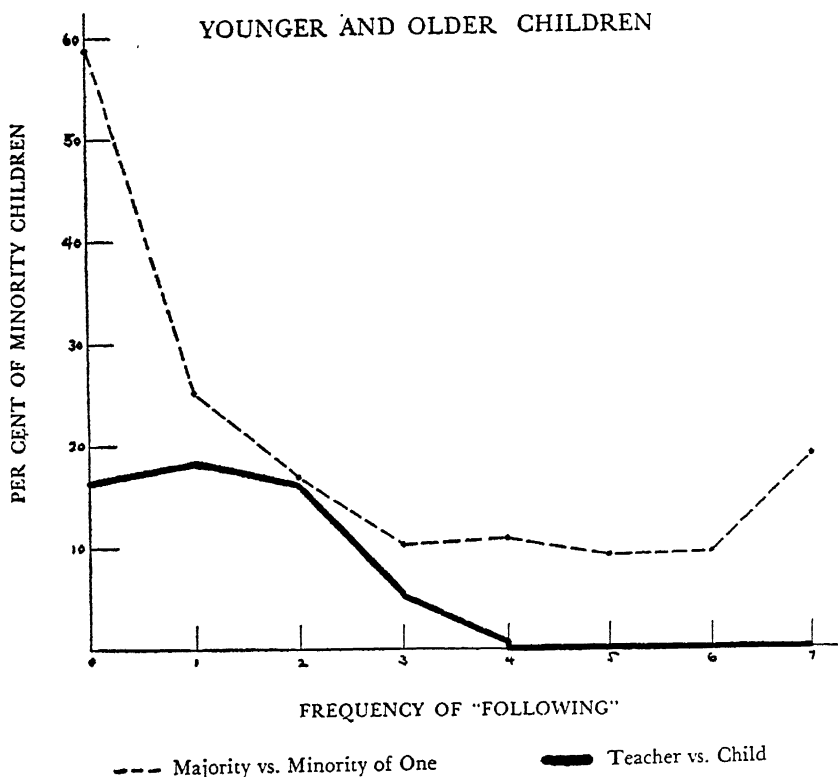


Fig. 6. TEACHER VS. CHILD AND MAJORITY VS.
MINORITY OF ONE

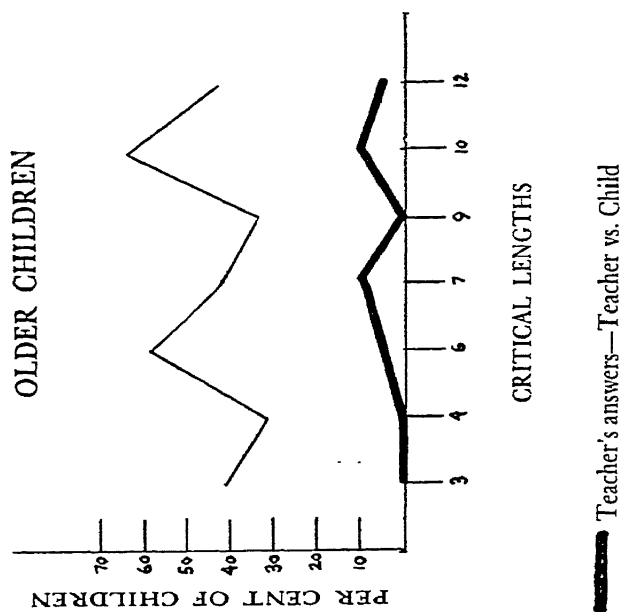
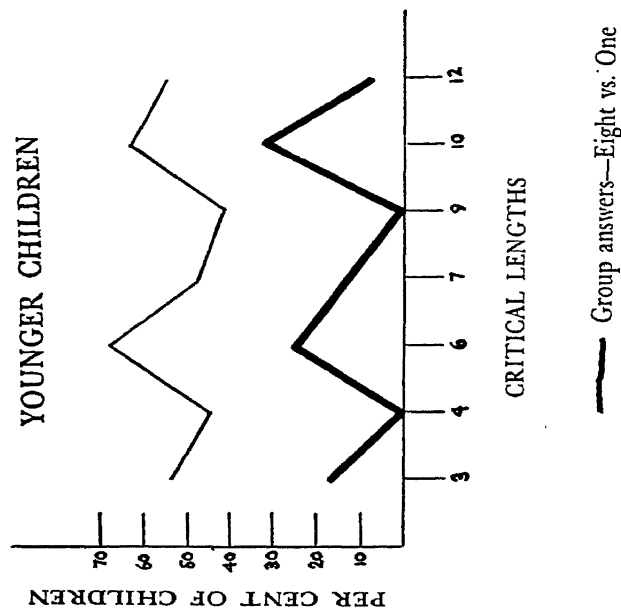


Fig. 7. TEACHER VS. CHILD AND MAJORITY VS. MINORITY OF ONE

Fig. 8. TEACHER VS. CHILD AND MAJORITY VS. MINORITY OF ONE

Figure 6 gives a comparison of the frequency of "following" in Experiments I and II. Figures 7 and 8 give the following or wrong answers of the younger and older children to the critical lines in the two experimental situations. The reader will note the parallelism in the two curves for the younger subjects and the much greater self-reliance of the older group, especially in the Teacher versus Child experiment.

To test whether there is any relationship between the teacher's judgments of the personality of the critical children and their behavior in the experimental situation, we constructed Table 11. There seems to be no correspondence between the behavior of children in their normal classroom situations and their resistance or vulnerability to group pressure.

TABLE 11
TEACHER'S CHOICE—TEACHER VS. CHILD

"Following" Scores	<i>Independent</i> (N = 39)		<i>Submissive</i> (N = 37)	
	Seven to Ten	Ten to Thirteen	Seven to Ten	Ten to Thirteen
0	11	12	8	11
1	7	3	9	1
2	3	0	5	1
3	2	1	2	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
7	0	0	0	0
Total	23	16	24	13

These findings are, however, inconclusive because of the small number of cases studied.

DISCUSSION

The results as well as the qualitative data reveal a pronounced difference in the behavior of the two age groups. Children of seven to ten years, when confronted with their teacher's wrong answers to simple perceptual material, showed a much greater tendency to follow her than those ten to thirteen years of age. In fact, among the older children there was a strong attempt to counteract, so-to-speak, the strange behavior of the teacher by greater cautiousness and a more careful appraisal of the task. As one twelve-year-old

boy put it: "I was looking all the time. . . . She didn't do it over. . . . She didn't take any measurements." A girl of thirteen explained: "When she was wrong, I put the right answer." A ten-and-one-half-year-old boy said: "I thought if hers was wrong, I would do a different one and do it right."

Concomitant with the results are also the attitudes of the two age groups to the experimental situation.

Though equally puzzled by the experiment, the younger children reacted very differently from the older ones. Since what was happening conflicted with their conception of the role of the teacher as "someone who is almost always right and knows much more than the children," they felt that it was not their job to explain what happened. In fact, they did not even feel obligated to offer any explanation. The general attitude expressed in personal interviews was: "I was puzzled but not nervous. The test was easy, and I knew I was right." The younger child did not experience this situation as a threat to his own intellectual integrity. Nor did the disagreement of the teacher make him doubt his own eyes or the objective situation.

Children of ten and older felt compelled to clarify the situation so as to make the behavior of the teacher plausible. There was also a tendency to doubt oneself, one's own judgment and the adequacy of one's vision. Reference was made to the difference of the angle from which the teacher and the subject viewed the lines, to the fact that the lines were far apart, and, as a last resort, to the fact that two people have a right to different opinions. There was no feeling that the teacher's judgment is infallible and that she must know everything. The need to express one's own ideas and to have one's opinions considered by the teacher was very strong. Great resentment was expressed against autocratic teachers—even those "in whose classes one learned a lot."

In spite of the teacher's special position and her prestige as a leader of her class, most children, irrespective of age, under questioning asserted, though with considerable hesitation, that theirs were the correct answers. It was only under pressure, however, and with an expression of embarrassment mixed with bewilderment and disbelief that the same children were willing to admit that their

teachers gave wrong answers to "such simple lines." Especially was this true of the younger groups. When asked who was wrong, one youngster of seven said: "Miss — is a teacher. She should have it most right." Another nine year old commented: "I don't know. Maybe Miss — was wrong or maybe I. My teacher is bigger, she knows. Big people know better." "I think I got some wrong and Miss — some." Older children exhibited less difficulty in admitting explicitly that the teacher gave wrong answers. To them, too, the situation remained very puzzling, but they offered in their individual interviews, a bit more sophisticated explanations for the situation. Several children attributed the strange behavior of the teacher to poor eyesight. A ten-year-old boy commented: "I was puzzled sort of. We both have eyes. . . . I suppose they just look different to different people. She just don't see correctly—bad eyesight." Another child of the same age said: "She knows most in class. Maybe she made a mistake in her vision. Might have been blurry."

A girl of eleven and one-half justified the teacher's behavior by saying: "I know Miss — knows more. But she might have strained her eyes." Another youngster of twelve expressed the same faith in the teacher's knowledge by stating: "I didn't think the teacher would give wrong answers unless it was part of the test. She judges pretty well."

There were also some who believed that the teacher must have given the wrong answers on purpose. A ten year old said: "Maybe she wanted to see if I would copy—to see if I would give my opinion." Another child explained: "I don't think she said what she really thought it was. Some of them she probably did on purpose to see what I will do."

Questioning revealed, however, that this explanation of the situation had not affected their behavior in the experiment and was offered only in retrospect. Another explanation given by some of the children of ten to thirteen years was: "I thought it was some optical illusion because of the different angles from which we were looking at the charts. I was very puzzled but wondered which one of us was right and which wrong." "I just picked out my own answer because I thought it was that. I thought she was just giving

these answers because she couldn't see like I from where I was sitting. I was trying to figure it out. Maybe she needs glasses or was sitting at a different angle than I. It may be different minds or may be the angle."

The disagreement of the teacher affected but very few personally. It was amazing how untouched the children remained. They were indeed puzzled. The situation was very strange, and their facial expressions ranged from surprise or utter bewilderment to resignation and indifference.

It was interesting to note that even in those classes (few luckily) where the teacher was very strict and disliked by the children, fear of her did not carry over to the experimental situation. Even in such classes, in other words, the children did not feel compelled to "follow" the teacher. They were, of course, very upset and worried when under pressure they had to admit that she had given wrong answers and they had to be assured that the interview was confidential and would not affect their marks. All subjects, when asked whether they felt like giving the teacher's answers, readily asserted that they didn't even feel tempted "to follow." In fact, many expressed a strong desire to correct the teacher and to call her attention to the lines.

An eleven-year-old girl asserted: "When I was sure of the answer, I felt like telling her." Another child said: "I felt funny. I said it's wrong and felt like giving her the right answers."

Prestige did not, as we see, act as a halo, and the special position of the teacher as a person "who knows more than the children" did not make her pupils accept her answers uncritically and without reservations. Contrary to the classical hypothesis that prestige suggestion operates blindly, we find here a definite attempt on the part of the subjects to understand and to evaluate the situation critically. This is confirmed by the quantitative as well as the qualitative results. There was more following on lines which even under control conditions proved ambiguous (sixth and tenth).

Following, therefore, is not simply a function of emotional factors such as like and dislike for the leader; it is definitely dependent upon the degree of structurization of the objective situation.

SUMMARY

When a child is presented with a simple task on which his own teacher gives obviously wrong answers, the following effects are observed:

1. The judgments of the younger children are significantly affected by the teacher.

2. This does not hold for children of ten years and older. The strange behavior of the teacher leads to greater cautiousness and accuracy of judgment and results in some following on lines that proved ambiguous in the control experiment.

3. The role of the teacher is significantly weaker than that of a majority of peers.

4. The special position of the teacher and her prestige as someone who knows more does not result in a blind and uncritical acceptance of her answers as correct. In fact, the younger as well as the older children recognize her responses as wrong.

5. Many children express a desire to correct the teacher when she is wrong.

6. Contrary to the halo theory that prestige suggestion operates blindly, we note a definite attempt on the part of the subjects to evaluate and to understand the objective situation.

CHAPTER FIVE

Experiment III: Estimates Minority versus Majority

PROBLEM AND PROCEDURE

WE ARE interested in determining what the behavior of a minority of eight children will be when the rest of their class gives extreme judgments on perceptual material.

In each of the eleven classes participating in this experiment, a control experiment was performed. Each child gave estimates on the following lengths:

TABLE 12

Order of Presentation	<i>Lines (Length in inches)</i>					
	1	2	3	4	5	6
First	2½	5	9	7	3	8
Second	8	3	2½	9	5	7

These lines were made of black tape ¼ inch wide and pasted on a white cardboard 17½ by 6 inches in size. In order to test consistency of judgment, they were presented twice in the order indicated in the table above.

In the critical experiment only three of the six lines used under control conditions were shown; the 9-inch, 2½-inch, and the 5-inch lines. Of a total of 323 children who served as subjects in the control experiment, 229 participated in the critical experiment as the majority and 87 children were the critical subjects.

In each of the eleven classes used in the experiment, the experimenter selected eight minority children on the basis of accuracy and consistency of judgments on the control experiments. On the day of the critical experiment, the teacher asked these eight in her group to come with her to another room and help her with some special work, and the experimenter was called in to take over the classes that varied in size from twenty to thirty children. The experimenter addressed the majority as follows: "You remember

that I showed you lines, and you had to tell how long each line was. In a short while the other children of the class will come back. We will then look at these lines again; but before they come back, we want to prepare in this way: I am going to tell you children just what answers you should give when the other children are here. Remember that your answers will go in my book, and it is very important that you give the answers I ask you to give. When the other children come back, I am going to show the lines and ask each of you and the others to stand up and tell me how long each line is. Now I am going to give you the answers that you are to give when you stand up. Remember, it is very important that you give these answers even if you know that they are wrong. [The experimenter then showed the lines to the group two or three times, and the desired answers were rehearsed.] You will keep your answers where you can always see them. You must behave in such a way that the children who come in will not know that you have the answers. Don't laugh or whisper."

Typewritten answers were then handed out to the majority and hidden in notebooks that were left open on each desk. Tables 13, 14, and 15 (see pages 53 and 54) show that the majority's answers were extreme overestimates beyond the limits of the control judgments and that they were not uniform. After satisfactory rehearsal with each majority, the minority was called in and seated in the back of the room in the last eight seats. The teacher, after informing the class that they would get a test from the experimenter, left the room.

The experimenter then said to the entire group: "You remember that I showed you lines before. Well, now we are going to have the same kind of test. But we want to save time; so you won't write your answers. I will call on you to stand up and say the answers out loud, and I will write them down. When I show a line, you will get up one after the other and give the answer out loud. Any questions? Don't whisper your answers even to yourself. We want to know what each one of you thinks."

After the experiment, the teacher took over the class and the eight minority children were interviewed individually in another room. The following questions were asked of each: "You gave

different answers. Why? Who do you think was right?" If the child said he was right, he was asked: "Who was wrong? How do you explain it? Did you change your answers when you heard the others? How did you feel?" At the end of the interview each child was informed of the nature of the experiment and its purpose. Upon completion of the individual interviews, the minority joined the rest of the class and a short discussion (with the teacher out of room) on their attitude toward teachers and school discipline in general followed.

RESULTS

We are interested to see whether a majority giving wrong answers will affect the judgments of a small minority. Also, will the influence of the group be the same for the three lengths: the 2½-inch, 5-inch, and 9-inch lines?

In the three summary Tables 13, 14, and 15 are given the judgments of both the control and the experimental groups on the three critical lines. The entire sample of 323 children used in the control experiment was broken up for purposes of analysis into two groups on the basis of age: from seven to ten years and from ten to thirteen years of age. The same procedure was used with the critical subjects.

A definite trend is apparent in all these tables. Group influence is weak on the 2½-inch line, slightly greater on the 5-inch line, and very pronounced on the 9-inch line.

In other words, there was a strong tendency on the part of the minority children to change their judgments to those of the majority when the line was long, less so when it was of medium size and thus ambiguous, as seen from the results of the control experiment (note size of sigma on 9-inch and 5-inch lines), but not so on the 2½-inch line.

In this experimental situation we also observe a difference in the behavior of the younger and older children both under control and critical conditions. The older children tend to be more consistent in their judgments and show a smaller range of errors than the younger ones (see sigma of both groups on the three lines). In the critical experiment fewer of the older children were swayed by the majority on each length. Six of the younger children and only

TABLE 13
DISTRIBUTION OF ESTIMATES OF $2\frac{1}{2}$ -INCH LINE

Range of Judgments in Inches	<i>Control Judgments</i>			<i>Critical</i> <i>Minority Judgments</i>	
	Younger Children Seven to Ten (N = 180)	Older Children Ten to Thirteen (N = 143)	Majority Over- estimates (N = 229)	Younger Children Seven to Ten (N = 48)	Older Children Ten to Thirteen (N = 39)
1-2	21	12		3	
2-3	117	102		26	24
3-4	40	28		10	12
4-5	2		31	3	1
5-6		1	126	4	2
6-7			72	2	
Average	2.63	2.63	5.68	3.19	3.01
Sigma	.62	.57	.65	1.21	.78

Critical ratios: younger children, control and critical, 3.09; older children, control and critical, 2.84; younger and older children, critical, 0.265.

TABLE 14
DISTRIBUTION OF ESTIMATES OF 5-INCH LINE

Range of Judgments in Inches	<i>Control Judgments</i>			<i>Critical</i> <i>Minority Judgments</i>	
	Younger Children Seven to Ten (N = 180)	Older Children Ten to Thirteen (N = 140) ^a	Majority Over- estimates (N = 229)	Younger Children Seven to Ten (N = 48)	Older Children Ten to Thirteen (N = 39)
1-2	5				
2-3	22	1			
3-4	19	7			
4-5	29	35		10	7
5-6	64	64		9	11
6-7	29	24		12	9
7-8	9	8	5	4	7
8-9	3	1	81	7	4
9-10			94	6	
10-11			49		1
Average	4.96	5.44	9.68	6.65	6.35
Sigma	1.53	.98	.79	1.67	1.41

^a Three children are not reported upon because they failed to follow directions and confused the lines.

Critical ratios: younger children, control and critical, 6.29; older children, control and critical, 3.8; younger and older children, critical, 0.51.

TABLE 15
DISTRIBUTION OF ESTIMATES OF 9-INCH LINE

Range of Judgments in Inches	<i>Control Judgments</i>			<i>Critical Minority Judgments</i>	
	Younger Children Seven to Ten (N = 178)	Older Children Ten to Thirteen (N = 143)	Majority Over- estimates (N = 227)	Younger Children Seven to Ten (N = 48)	Older Children Ten to Thirteen (N = 39)
3-4	1				
4-5					
5-6	7	2			
6-7	19	13			1
7-8	37	20			
8-9	36	30			2
9-10	28	32		3	2
10-11	38	30		6	4
11-12	9	5		6	4
12-13	3	11	3	6	13
13-14			52	6	9
14-15			88	4	3
15-16			84	12	1
16-17				5	
Average	8.17	9.25	14.38	13.40	12.14
Sigma	1.96	1.60	.799	2.18	1.83

Critical ratios: younger children, control and critical, 15.5; older children, control and critical, 8.97; younger and older children, critical, 2.92.

two of the older gave the wrong answer of the majority on the $2\frac{1}{2}$ -inch line (Table 13). On the 5-inch line six younger children and only one older one were swayed by the class. Though group influence was strong on the 9-inch line for both age groups, it was much more pronounced for the younger children of whom as many as twenty-seven of the forty-eight gave wrong group answers, whereas only thirteen of the group of thirty-nine older ones yielded to group pressure.

The critical ratios calculated for the two age groups on all lines confirm these results. The critical ratio between the judgments of the younger children under control and critical conditions on the $2\frac{1}{2}$ -inch line is statistically significant ($t = 3.09$). The older children were also influenced in their judgments of this line but less so than the younger ones ($t = 2.84$). There is, however, no statisti-

cally significant difference between the judgments of the two age groups on the 2½-inch line in the critical experiment ($t = .265$).

On the 5-inch line the effect of the group is felt by both younger and older children but much more by the younger. The critical ratio between the control and critical judgments of the younger children is 6.29 and for the older 3.80. Again, there is no significant difference between the judgments of the younger and older children ($t = 0.510$) in the critical experiment.

With the 9-inch line, the minorities of the younger children as well as those of the older change their judgments significantly in the direction of the majority.

Again, this trend is more pronounced among the seven-to-ten-year-old children as is apparent from the size of the critical ratios, $t = 15.5$ for the younger and 8.97 for the older children. On this line, too, the results of the two age groups under critical conditions are statistically significant ($t = 2.92$).

That the amount of following is dependent upon the degree of structurization of the objective situation is also observed when we calculate the critical ratios for all the minority children only under control and the experimental conditions. On the 2½-inch line we obtain a $t = 2.86$; on the 5-inch line, $t = 3.41$; and on the 9-inch line, $t = 8.02$.

Marked individual differences were observed in the behavior of the eleven grades participating in this experiment.

We have calculated Fisher's t 's to ascertain whether the judgments of the eight minority children in each grade were significantly affected by the majority's wrong answers on the three critical lines.

Inspection of Tables 16, 17, and 18 (see pages 57 and 58) shows that even on the 2½-inch line there was a significant amount of following in four grades—3A, 3B, 4A, and 5B.¹ On the 5-inch line the minorities were influenced in their judgments in grades 3B and 4A and in the fifth grades. On the 9-inch line, following

¹ It is interesting to note that in these four grades the teachers were very strict and unsympathetic. On visits to these classes, the experimenter was impressed with the prevailing group spirit and psychological unity of these classes. It seemed as though, denied the approval of their teachers, these children found security in their group belongingness and loyalty toward one another.

occurred in all classes except the fifth grade.² This is strange since the same children were strongly influenced by the majority on the two preceding critical lines!

The reactions of the children to the experimental situation were extremely interesting. The majorities in all grades with the exception of two (3A and 4B) grasped the purpose of the experiment readily and took their role in it very seriously. They were not simply following instructions; they were intelligent, active participants and interested partners in an exciting enterprise. They gave the prescribed answers hesitantly, cautiously and carefully looking at the lines, so that at no time did the minorities suspect that this was a set-up situation.

As evidenced by the discussion that usually followed, they fully realized the implications of the project and were very upset when members of their minority who were known to them to be "smart" followed the majority.

The emotional reaction of the minorities to the wrong answers of their classmates varied with the nature of the objective situation. The puzzled expression with which they greeted the exaggerated judgments of their classmates on the 9-inch line (the first to be presented), changed to surprise, bewilderment, and even amusement when the 2½-inch line was estimated as 4¾ to 6½ inches long by the respective majorities. Even after giving their answers, many in the minority would remain standing, examining and measuring the lines with their fingers or with pencils.

DISCUSSION

Our results indicate a substantial amount of following, especially on the 9-inch and 5-inch lines. It is important to note, however, that there was never really complete acceptance of group opinion. The estimates of the minority children were rather consistently less extreme than those of the majority, especially with the shorter lines.

In this experiment as in the earlier ones, we note a great difference in the behavior of the younger and the older children. Though

² It is interesting to note that even when the differences are not significant the direction of the change is consistent.

TABLE 16

2½-INCH LINE

Minority (Experimental) vs. Minority (Control)
Means, Sigmas, and Critical Ratios

Grade	Mean Control	Mean Experimental	Sigma Control	Sigma Experimental	Critical Ratios t(D/d) P
MAJORITY MEAN OVERESTIMATE = 5.68					
3A	2.19	2.97	.43	.59	2.80 < .05 ^a
3B	2.38	2.91	.70	1.10	1.08 < .40
3B & 4A	1.63	4.75	.49	1.09	6.93 < .01 ^b
4A	2.44	2.28	.30	.35	.94 < .40
4B	2.44	2.59	.17	.69	.56 < .60
4B OP ^c	2.50	2.25	.62	.49	.86 < .60
5B	1.88	3.28	.33	1.06	3.33 < .02 ^a
5B	2.43	2.39	.35	.40	-.19 < .80
6A OP ^c	2.41	2.97	.52	.57	1.87 < .20
6A & 6B	2.06	2.72	.39	1.09	1.50 < .20
6B OP ^c	2.28	2.44	.30	.39	.84 < .60

^a Significant.^b Very significant.^c Opportunity class—see p. 14.

TABLE 17

5-INCH LINE

Minority (Experimental) vs. Minority (Control)
Means, Sigmas, and Critical Ratios

Grade	Mean Control	Mean Experimental	Sigma Control	Sigma Experimental	Critical Ratios t(D/d) P
MAJORITY MEAN OVERESTIMATE = 9.68					
3A	6.19	6.69	1.14	1.72	.64 < .60
3B	5.38	5.41	1.14	1.89	.04 > .80
3B & 4A	4.13	8.50	1.20	.50	8.92 < .01 ^a
4A	5.90	6.06	1.09	.87	.31 < .80
4B	4.69	5.44	.84	.66	1.83 < .20
4B OP	5.56	6.59	.73	1.04	2.15 < .10
5B	4.31	6.92	.75	1.83	3.53 < .01 ^a
5B	4.86	5.93	.79	.69	2.55 < .05 ^b
6A OP	4.78	5.91	.77	1.24	2.05 < .10
6A & 6B	5.13	5.37	.44	1.54	.40 < .80
6B OP	5.49	6.41	.85	.83	2.04 < .10

^a Very significant.^b Significant.

all in the minorities, irrespective of age, admitted readily that the majority answers were incorrect, the reaction of the two age groups to the experimental situation was quite different. To the question who was right, among the eight and nine year olds the answer was

TABLE 18

9-INCH LINE

Minority (Experimental) vs. Minority (Control)
Means, Sigmas, and Critical Ratios

Grade	Mean Control	Mean Experimental	Sigma Control	Sigma Experimental	Critical Ratios t(D/d) P
MAJORITY MEAN OVERESTIMATE = 14.38					
3A	9.98	15.25	1.95	.44	7.59 < .01 ^a
3B	8.44	12.22	1.55	1.92	4.11 < .01 ^a
3B & 4A	8.25	14.38	.97	.70	13.62 < .01 ^a
4A	9.31	11.75	1.30	1.75	3.01 < .02 ^b
4B	7.75	11.63	.65	1.71	5.54 < .01 ^a
4B OP	9.31	12.81	1.20	1.23	5.47 < .01 ^a
5B	9.13	11.75	.93	2.86	2.30 < .10
5B	7.71	11.07	1.56	.34	4.67 < .01 ^a
6A & 6B	9.09	12.28	.75	1.95	4.04 < .01 ^a
6B	9.57	12.50	1.30	.56	4.73 < .01 ^a

^a Very significant. ^b Significant.

invariably "myself" or "me and my friend," but very seldom was there any reference to the other seven minority children as a group.

Up to the fourth grade, no group formation took place in the "back of the room." With the older children there was definite group formation in the minority, with one child assuming leadership. This leader was not necessarily the first of the eight. In fact, his actual position did not matter; but if the group had confidence in his judgment, his opinions served to enforce their own position in relation to the majority. Even when the first followed the majority, as was sometimes the case, this did not prevent the other seven from disagreeing with the majority. In the individual protocols constant allusion was made to this child as a leader and to "us in the back" or "the eight of us in the back" or "our group."

The younger children offered but little explanation for the behavior of the majority. In the personal interviews such statements were obtained: "I didn't know what they meant. They said high numbers." "I thought there was nothing to do but to wait for my turn."

The older subjects, when interviewed individually, voluntarily offered an explanation for the behavior of the majority. These explanations varied depending on who was the first child in the majority. If this pupil happened to be outstanding, then the

minority found it plausible to attribute the behavior of the class to copying, offering such statements as: "They think she is smart." "She leads everybody. She is the best worker in our class, and if the children have to follow someone, why shouldn't they follow her?" "On the test they thought they should follow her." "S— is the smartest." In one class, where the first pupil in the majority was known to be dull and to have poor eyesight, the minority explained the behavior of the majority in the following manner: "F— has poor eyes, but M— is smart and he copied him. The others figured that if two people give the same answer they must be right." "They copied from F— because they were lazy." When they could not blame an individual member of the class, they sought an explanation in the objective situation saying: "Maybe they don't have good eyesight, or maybe if they sit too close to the front, they can't see very well." "We had the best advantages; we had the last two rows, and we could study the lines more." "You can get a better view from the back."

This reference to the "we" when speaking of the minority was characteristic of children of ten years and older. There was a very strong need to be a member of a group. When identification with the majority became impossible, group loyalty and group belonging were transferred to the small minority. Strangely enough, this was done even by some children who in their actual behavior remained independent of the minority, especially when the latter followed the majority. They would say: "We in the back gave right answers."

Whereas children of eight and nine years of age had the need to justify and explain their own individual behavior, the older children, feeling themselves members of the group, explained their own behavior by explaining that of the group with which they identified themselves. Among the older there was a strong feeling of responsibility for each member of the group and a feeling of pride in the group's achievements. There was frequent allusion to the fear of being accused of copying by both younger and older children. But whereas to the younger children this is an absolute taboo, with the older it very much depends on their evaluation of the teacher, her role in the classroom, the fairness and reasonableness of her exams. In some of the upper grades, especially in those where the teacher's

discipline was not always consistent and fair, the children boasted of copying and getting away with it.

Why did the children in some classes yield to group pressure more than in others (see Tables 16, 17, and 18)? The answer is not very clear. As we have seen, the amount of "following" did not seem to depend on the age of the children. It also did not depend on their I.Q.; for even in opportunity classes, where the children's I.Q. is 130 and above, the minority gave wrong majority estimates on the 9- and 5-inch lines. There was more "following," however, in classes where the teacher had been unable to assume leadership and effective control over her group.

In general, it was observed that when the objective situation was very clear, as in the case with the 2½-inch line, little or no following occurred. When following did take place, it was never done with conviction and ease; on the contrary, the emotional expressions accompanying this behavior were uncertainty, discomfort, and a puzzled curiosity.

SUMMARY

When a minority of eight children was pitted against a majority of twenty to thirty of their classmates giving wrong, but not uniform answers, the following results were obtained:

1. There was a strong tendency to follow the majority on the 9-inch line; there was less following on the 5-inch line, and almost no following on the 2½-inch line.
2. Children of eight and nine years were more influenced by the majority in their judgments than children of ten and older. Psychologically, the situation was not the same for both age groups. Among the older it was truly a group versus group situation; whereas in the lower grades it took on the character of a few individuals opposing or going with a majority.
3. There was more "following" in classes where the teacher had been unable to assume leadership and effective control over her group.

On the whole, there was never really complete acceptance of group opinion. The estimates of the minority children on all lines were consistently less extreme than those of the majority.

CHAPTER SIX

Experiment IV: Comparisons Minority versus Majority

PROBLEM AND PROCEDURE

WHAT WILL a minority do when the majority gives unanimous, right and wrong answers in making very simple judgments of perceptual material? Will the minority that has the experience of facing a majority always giving wrong answers be equally or more influenced if the same majority gives unanimous, correct and incorrect answers?

Without changing the experimental situation, we therefore presented the same groups that participated in Experiment III with a different task—a 5-inch standard and seven comparison lines measuring, in order of presentation, $4\frac{1}{2}$, 5, $5\frac{3}{4}$, $4\frac{3}{4}$, $5\frac{1}{2}$, $5\frac{1}{4}$, and $4\frac{1}{4}$ inches. Judgments on these lines had been obtained from the same children under control conditions. Now the same lines were presented twenty-one times, the majority being under instructions to judge each line in turn as “longer,” “shorter,” and “equal” to the standard, while the minority of eight children was completely naive. With each class the experimenter rehearsed these answers on the morning of the experiment.

The lengths of lines, the order of presentation, and the prescribed majority judgments are given in the following table:

¹ 5½ in. (L)	² 5¼ in. (L)	³ 4¾ in. (S)	⁴ 5 in. (E)	⁵ 4¼ in. (S)	⁶ 5¼ in. (E)	⁷ 5¾ in. (E)
⁸ 5 in. (S)	⁹ 5½ in. (E)	¹⁰ 4½ in. (E)	¹¹ 5¾ in. (L)	¹² 5¼ in. (S)	¹³ 4¼ in. (E)	¹⁴ 4¾ in. (L)
¹⁵ 4½ in. (S)	¹⁶ 5½ in. (S)	¹⁷ 4½ in. (L)	¹⁸ 5 in. (L)	¹⁹ 4¼ in. (L)	²⁰ 5¾ in. (S)	²¹ 4¾ in. (E)

After presenting the three lines used in Experiment III, the experimenter addressed the entire group in the following manner:

"We shall have another test now. Here on the left we shall always have this line [pointing to the standard]. On the right [three feet apart] I shall put another card, and you will have to tell whether the one on the right is longer, shorter, or equal to the one on the left. You will again get up and give your answers out loud. Any questions?"

In the personal interviews that followed both experiments, the experimenter asked each child in the minority the following questions: "Which of the two tests was more difficult? On which was it easier to give your own answers? Did you feel like changing your answers? Who was right?"

RESULTS

The judgments of the majority and those of the minority are given in seven summary tables, one for each line, and also graphically in Figures 9, 10, 11, 12, 13, 14, and 15 (see following pages). An examination of Tables 19, 20, 21, 22, 23, 24, and 25 reveals a clear trend. Group influence is negligible when the perceptual situation is very clear, that is, when the difference between the compared lines is as great as one half or three quarters of an inch. When the perceptual situation is ambiguous, as was the case with comparison lines of equal lengths and those only a quarter of an inch shorter or longer, the behavior of the minority becomes ambiguous.

This ambiguity in the perceptual situation did not, however, as might have been expected, lead to group following. On the contrary, it frequently led to resistance and independence on the part of the minority. This is particularly made clear by the graphs.

Inspection of the judgments given under control conditions gives evidence that, where the compared lines were of equal lengths or differed by only a quarter of an inch, difficulty in judging them accurately was apparent. On the comparison line $4\frac{1}{4}$ inches long (Table 19, Figure 9), 95 per cent of the younger and 99 per cent of the older children gave a correct answer in the control experiment; on the $4\frac{1}{2}$ -inch comparison line, 91 per cent and 97 per cent of the judgments were correct. On the $4\frac{3}{4}$ -inch line, however, only 86 per cent and 91 per cent of the children gave the right answer;

SUMMARY TABLE 19^a

4¼-INCH COMPARISON LINE

<i>Younger Seven to Ten</i>	<i>Older Ten to Thirteen</i>	<i>Younger Seven to Ten</i>	<i>Older Ten to Thirteen</i>	<i>Younger Seven to Ten</i>	<i>Older Ten to Thirteen</i>
-------------------------------------	--------------------------------------	-------------------------------------	--------------------------------------	-------------------------------------	--------------------------------------

A. Control Experiment

(N = 327: Seven to Ten, 180; Ten to Thirteen, 147)

LONGER				SHORTER				EQUAL			
6	3%	0	0%	171	95%	146	99%	3	2%	1	1%

B. Critical Experiment

MAJORITY
(N = 240)

MINORITY

(N = 87; Seven to Ten, 48; Ten to Thirteen, 39)

	LONGER				SHORTER				EQUAL			
LONGER	0	0%	1	3%	48	100%	38	97%	0	0%	0	0%
SHORTER	0	0%	0	0%	48	100%	39	100%	0	0%	0	0%
EQUAL	0	0%	0	0%	47	98%	39	100%	1	2%	0	0%

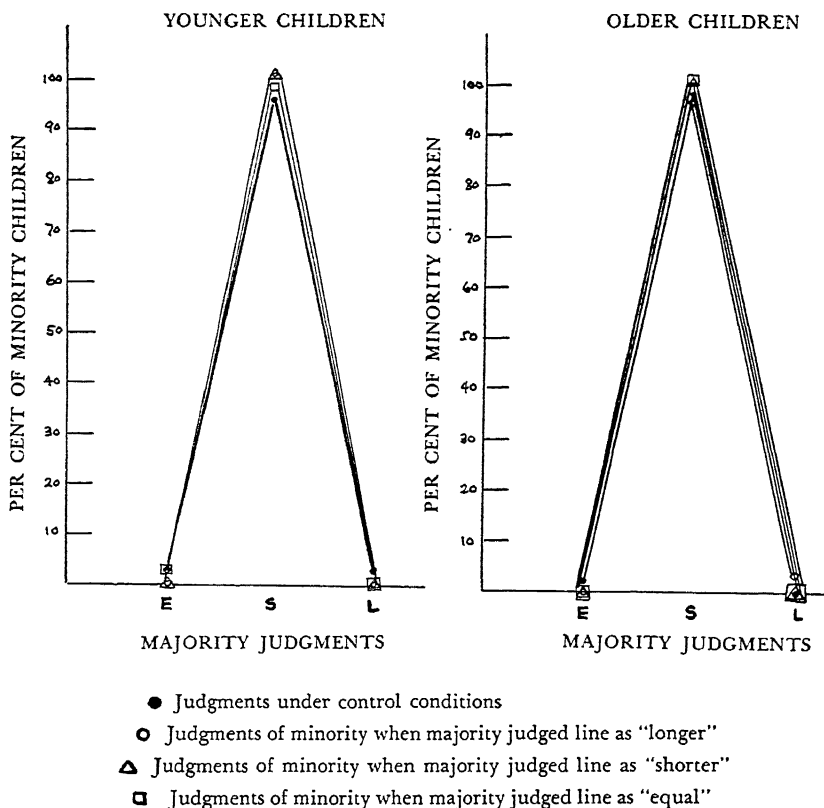
^a Under controlled conditions, the younger children responded as follows: 6, or 3 per cent, judged the line as longer; 171, or 95 per cent, as shorter; and 3, or 2 per cent, as equal. In the older group, none of the children called the line longer; 146, or 99 per cent, called it shorter; and 1, or 1 per cent, called it equal.

In the Critical Experiment, when the majority judged the line as longer, none of the younger children called it longer or equal; all 48 of them, 100 per cent, called it shorter. Of the older children, one, or one per cent, judged it longer; 38, or 97 per cent, shorter; none called it equal. When the majority called the line shorter, 48, or 100 per cent, of the younger children called it shorter, and 39, or 100 per cent, of the older children judged it shorter.

on the 5-inch line 82 per cent and 73 per cent were right. The 5¼-inch line was judged as longer by only 31 per cent of the younger children and 32 per cent of the older, whereas 62 per cent of the younger and 64 per cent of the older called it equal. These results would indicate that the perception of a small difference in length is not experienced the same way in both directions; the longer being much more ambiguous than the shorter one.

On the 5½-inch (Table 24, Figure 14), 80 per cent and 90 per cent judged it correctly, and on the 5¾-inch (Table 25, Figure 13) 97 per cent of both the younger and the older children gave the correct answer.

The same trend was apparent in the experimental situation, where the majority judged each line correctly once and twice incorrectly. When the difference between the standard and the comparison line was large, as was the case on the 4¼-inch line, the

Fig. 9. $4\frac{1}{4}$ -INCH COMPARISON LINE

majority called the line longer, shorter, and equal, but the minority (younger and older children) remained unperturbed, almost 100 per cent giving the correct response. The same was true of the $4\frac{1}{2}$ -inch line (Table 15, Figure 10).

With the $4\frac{3}{4}$ -inch line the percentage of correct, independent judgments dropped to 71, 79, and 83 per cent of the younger children and to 77, 92, and 92 per cent of the older, as compared to the 86 and 91 per cent, respectively, in the control experiment. On the 5-inch comparison line, 75, 81, and 42 per cent of the younger children and 70, 31, and 67 per cent of the older children judged it as equal. Though the older children appeared more cautious in judging equality in the control experiment, 67 per cent were willing to

SUMMARY TABLE 20

4½-INCH COMPARISON LINE

<i>Younger Seven to Ten</i>	<i>Older Ten to Thirteen</i>	<i>Younger Seven to Ten</i>	<i>Older Ten to Thirteen</i>	<i>Younger Seven to Ten</i>	<i>Older Ten to Thirteen</i>
-------------------------------------	--------------------------------------	-------------------------------------	--------------------------------------	-------------------------------------	--------------------------------------

A. Control Experiment

(N = 327: Seven to Ten, 180; Ten to Thirteen, 147)

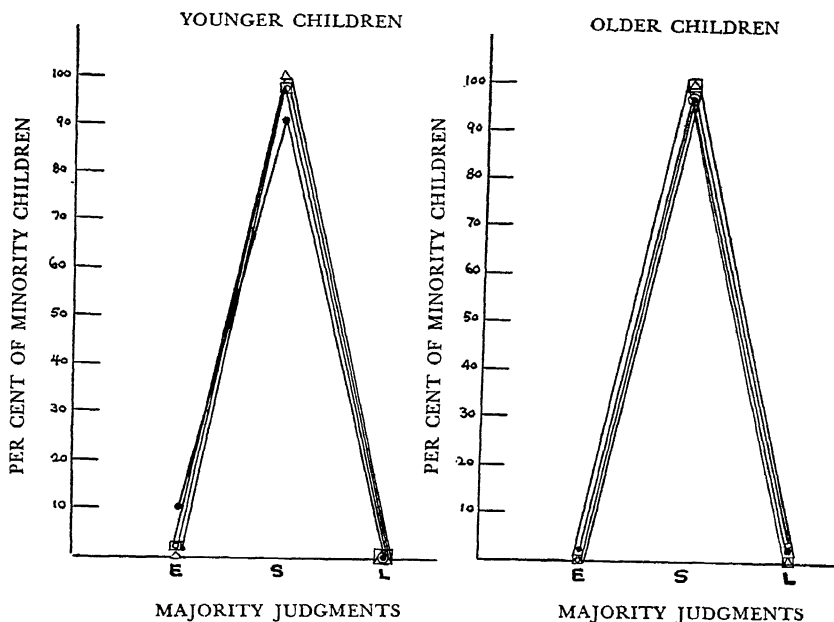
LONGER				SHORTER				EQUAL			
0	0%	2	1%	164	91%	142	97%	16	9%	3	2%

B. Critical Experiment

MINORITY

(N = 87; Seven to Ten, 48; Ten to Thirteen, 39)

	LONGER				SHORTER				EQUAL			
LONGER	0	0%	1	3%	47	98%	38	97%	1	2%	1	0%
SHORTER	0	0%	0	0%	48	100%	39	100%	0	0%	0	0%
EQUAL	0	0%	0	0%	47	98%	39	100%	1	2%	0	0%



- Judgments under control conditions
- Judgments of minority when majority judged line as "longer"
- △ Judgments of minority when majority judged line as "shorter"
- Judgments of minority when majority judged line as "equal"

Fig. 10. 4½-INCH COMPARISON LINE

COMPARISONS: MINORITY VS. MAJORITY

SUMMARY TABLE 21

4¾-INCH COMPARISON LINE

<i>Younger Seven to Ten</i>	<i>Older Ten to Thirteen</i>	<i>Younger Seven to Ten</i>	<i>Older Ten to Thirteen</i>	<i>Younger Seven to Ten</i>	<i>Older Ten to Thirteen</i>
-------------------------------------	--------------------------------------	-------------------------------------	--------------------------------------	-------------------------------------	--------------------------------------

A. Control Experiment

(N = 327: Seven to Ten, 180; Ten to Thirteen, 147)

LONGER				SHORTER				EQUAL			
5	3%	1	1%	156	86%	133	91%	19	11%	13	8%

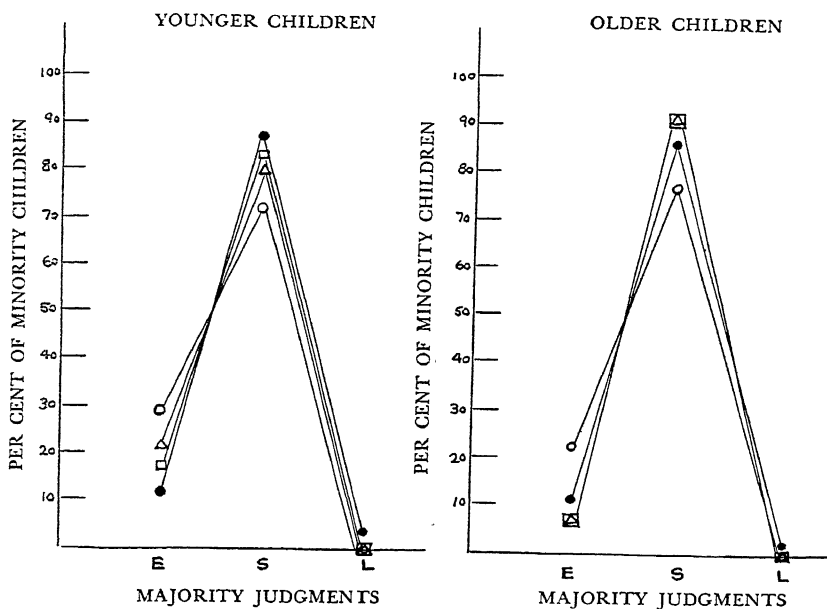
B. Critical Experiment

MINORITY

(N = 87: Seven to Ten, 48; Ten to Thirteen, 39)

MAJORITY
(N = 240)

	LONGER				SHORTER				EQUAL			
LONGER	0	0%	0	0%	34	71%	30	77%	14	29%	9	23%
SHORTER	0	0%	0	0%	38	79%	36	92%	10	21%	3	8%
EQUAL	0	0%	0	0%	40	83%	36	92%	8	17%	3	8%



- Judgments under control conditions
- Judgments of minority when majority judged line as "longer"
- △ Judgments of minority when majority judged line as "shorter"
- Judgments of minority when majority judged line as "equal"

Fig. 11. 4¾-INCH COMPARISON LINE

SUMMARY TABLE 22

5-INCH COMPARISON LINE

<i>Younger Seven to Ten</i>	<i>Older Ten to Thirteen</i>	<i>Younger Seven to Ten</i>	<i>Older Ten to Thirteen</i>	<i>Younger Seven to Ten</i>	<i>Older Ten to Thirteen</i>
-------------------------------------	--------------------------------------	-------------------------------------	--------------------------------------	-------------------------------------	--------------------------------------

A. Control Experiment

(N = 327; Seven to Ten, 180; Ten to Thirteen, 147)

LONGER		SHORTER		EQUAL	
14	8%	21	14%	19	10%
19	10%	19	13%	147	82%
				107	73%

B. Critical Experiment

MINORITY

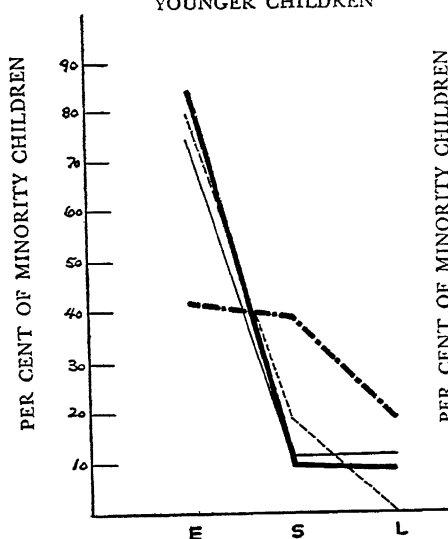
(N = 87; Seven to Ten, 48; Ten to Thirteen, 39)

MAJORITY
(N = 240)

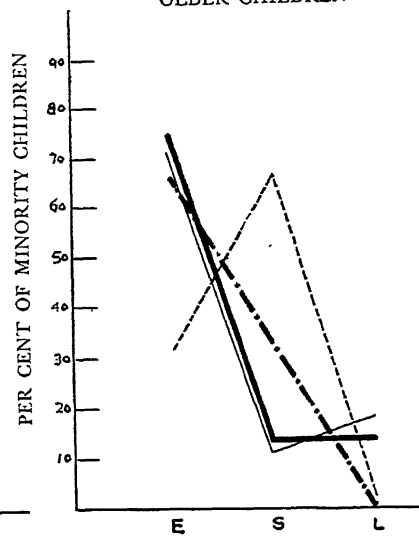
	LONGER		SHORTER		EQUAL	
LONGER	6	12.5%	7	18%	6	12.5%
SHORTER	0	0%	1	3%	4	12%
EQUAL	9	19%	0	0%	36	75%
					28	70%
					39	81%
					12	31%
					20	42%
					26	67%

YOUNGER CHILDREN

OLDER CHILDREN



MAJORITY JUDGMENTS



MAJORITY JUDGMENTS

— Control judgments

- - - Majority judged line as "shorter"

— Majority judged line as "longer"

• • • Majority judged line as "equal"

Fig. 12. 5-INCH COMPARISON LINE

SUMMARY TABLE 23

5½-INCH COMPARISON LINE

<i>Younger</i>	<i>Older</i>	<i>Younger</i>	<i>Older</i>	<i>Younger</i>	<i>Older</i>
<i>Seven</i>	<i>Ten to</i>	<i>Seven</i>	<i>Ten to</i>	<i>Seven</i>	<i>Ten to</i>
<i>to Ten</i>	<i>Thirteen</i>	<i>to Ten</i>	<i>Thirteen</i>	<i>to Ten</i>	<i>Thirteen</i>

A. Control Experiment

(N = 327: Seven to Ten, 180; Ten to Thirteen, 147)

LONGER		SHORTER		EQUAL	
55	31%	47	32%	13	7%
6	4%	110	62%	94	64%

B. Critical Experiment

MINORITY

(N = 87; Seven to Ten, 48; Ten to Thirteen, 39)

MAJORITY
(N = 240)

	LONGER		SHORTER		EQUAL	
LONGER	33	69%	29	74%	4	8%
SHORTER	11	23%	9	23%	0	0%
EQUAL	31	65%	28	71%	1	2%

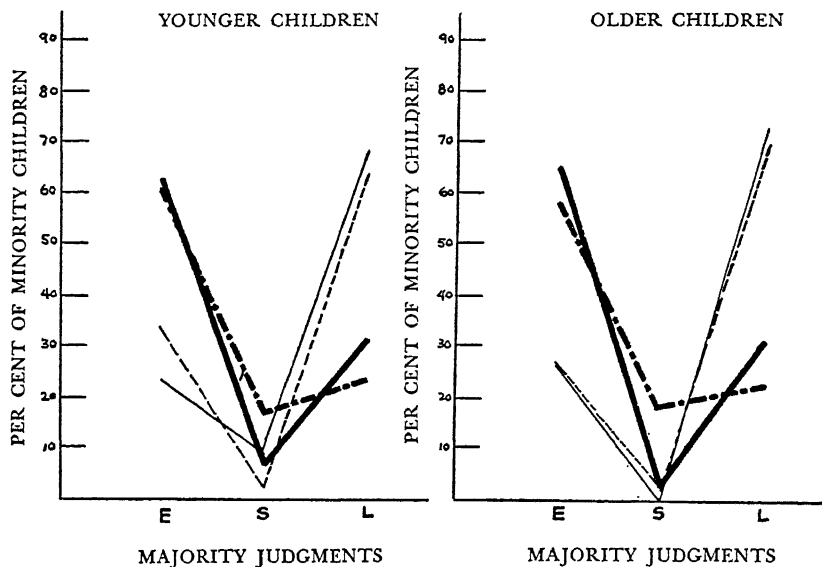


Fig. 13. 5½-INCH COMPARISON LINE

SUMMARY TABLE 24

5½-INCH COMPARISON LINE

Younger Seven to Ten	Older Ten to Thirteen	Younger Seven to Ten	Older Ten to Thirteen	Younger Seven to Ten	Older Ten to Thirteen
----------------------------	-----------------------------	----------------------------	-----------------------------	----------------------------	-----------------------------

A. Control Experiment

(N = 327: Seven to Ten, 180; Ten to Thirteen, 147)

LONGER		SHORTER		EQUAL	
144	80%	132	90%	5	3%
2	1%	31	17%	13	9%

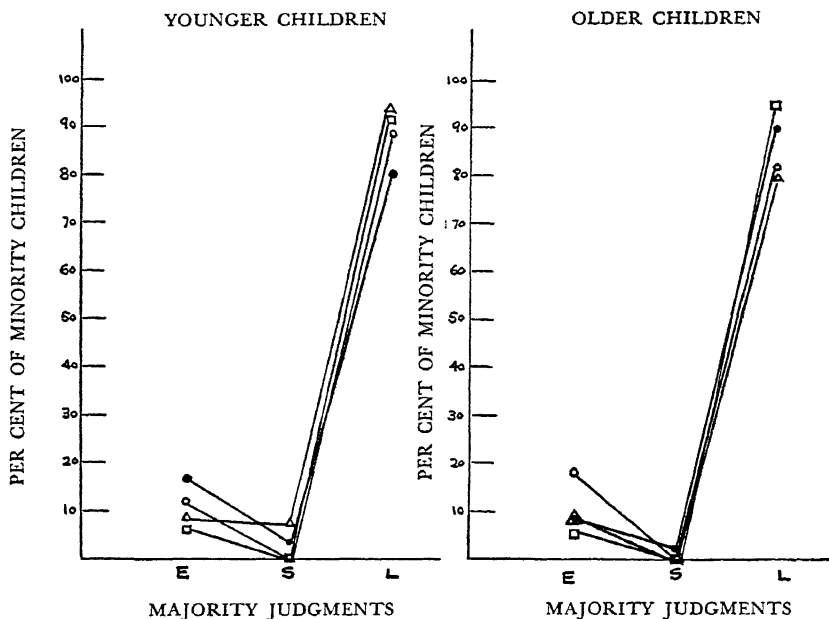
B. Critical Experiment

MINORITY

(N = 87; Seven to Ten, 48; Ten to Thirteen, 39)

MAJORITY
(N = 240)

	LONGER		SHORTER		EQUAL	
LONGER	43	89%	32	82%	0	0%
SHORTER	44	92%	33	85%	3	7.5%
EQUAL	45	94%	37	95%	0	0%



- Judgments under control conditions
- Judgments of minority when majority judged line as "longer"
- ▲ Judgments of minority when majority judged line as "shorter"
- Judgments of minority when majority judged line as "equal"

Fig. 14. 5½-INCH COMPARISON LINE

SUMMARY TABLE 25

5¾-INCH COMPARISON LINE

<i>Younger Seven to Ten</i>	<i>Older Ten to Thirteen</i>	<i>Younger Seven to Ten</i>	<i>Older Ten to Thirteen</i>	<i>Younger Seven to Ten</i>	<i>Older Ten to Thirteen</i>
-------------------------------------	--------------------------------------	-------------------------------------	--------------------------------------	-------------------------------------	--------------------------------------

A. Control Experiment

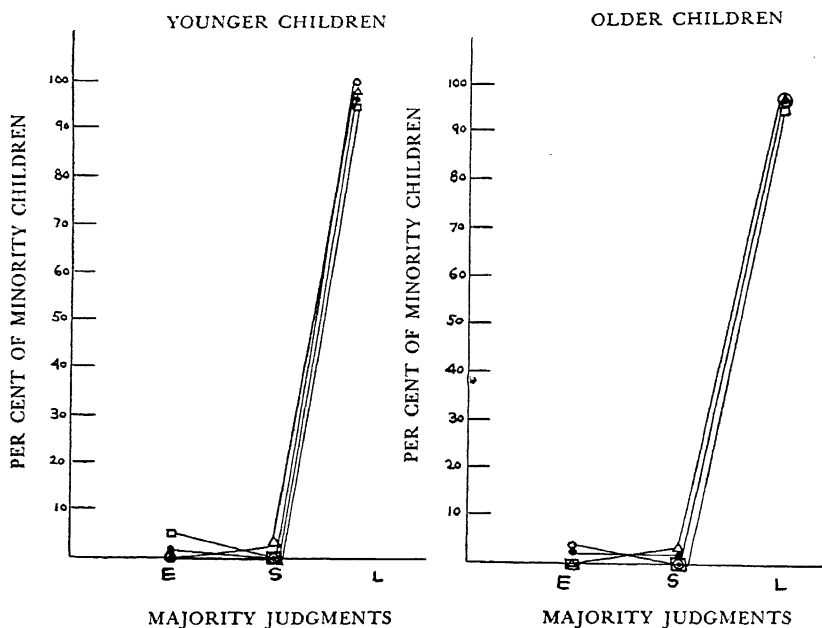
(N = 327; Seven to Ten, 180; Ten to Thirteen, 147)

LONGER				SHORTER				EQUAL			
174	97%	142	97%	4	2%	2	1%	2	1%	3	2%

B. Critical Experiment

(N = 87; Seven to Ten, 48; Ten to Thirteen, 39)

MAJORITY (N = 240)				MINORITY (N = 87; Seven to Ten, 48; Ten to Thirteen, 39)								
	LONGER				SHORTER				EQUAL			
LONGER	48	100%	38	97%	0	0%	0	0%	0	0%	1	3%
SHORTER	47	98%	38	97%	1	2%	1	3%	0	0%	0	0%
EQUAL	46	95%	37	95%	0	0%	0	0%	2	5%	0	0%



- Judgments under control conditions
- ◻ Judgments of minority when majority judged line as "longer"
- ◄ Judgments of minority when majority judged line as "shorter"
- ◻ Judgments of minority when majority judged line as "equal"

Fig. 15. 5¾-INCH COMPARISON LINE

accept the correct judgment of the majority as against only 42 per cent of the younger (see Figure 12). The children of seven to ten years of age proved much more independent of the majority in the comparison of equal lines as exemplified by the fact that only 19 per cent followed the majority in judging it as shorter, as against 66 per cent of the older children.

When the majority gave the correct answer on the $5\frac{1}{4}$ -inch comparison line, 69 per cent of the younger children and 74 per cent of the older followed, thus improving on their judgment as compared with the control results of 31 per cent and 32 per cent correct judgments. When the same line was called shorter and equal by the majority, the judgments of the minority became inconsistent and scattered. On the lines $5\frac{1}{2}$ and $5\frac{3}{4}$ inches long the percentage of correct judgments was again high for both age groups (see Tables 24, 25 and Figures 14, 15).

The results are rather clear. When the objective situation is clearly structured, the wrong answers of a unanimous majority may and may not bring about following.

When, however, the task itself is not clear, then the correct opinion of a majority may serve as an anchoring point and as a frame of reference. The wrong judgments of an overwhelming majority in such a situation only lead to more confusion and scatter in judgments among the minority children.

DISCUSSION

Experiments III and IV were performed, as we said before, with the same groups, under the same experimental conditions. And yet, with a different objective task, the two situations proved to be distinctly different psychologically.

It was interesting to watch the reaction of the minority children to these two experimental situations. There was little personal involvement in Experiment III. The children were indeed puzzled. Especially was this true on the $2\frac{1}{2}$ -inch line. They were not touched, however, by the entire situation.

The behavior of the same children was quite different in Experiment IV. A whole gamut of emotions was displayed in the facial expressions of these children—surprise, amusement, bewilderment,

disbelief, and even annoyance and belligerence. Some of the minority children could not remain seated; they stood up throughout the experiment, carefully measuring the lines with their eyes and watching the majority in horror. Others, when the situation became too unreasonable, retired into a state of apathy, looking at the lines only when called upon to give an answer.

Why should some children react differently to two situations which, outwardly at least, appear the same? Contrary to the situation found in Experiment III where lack of clear structurization and ambiguity led to a greater acceptance of the opinion of the majority, in the comparison of lines lack of clarity brought about independent behavior on the part of the minority. And yet in the latter experiment the majority did give correct judgments seven times out of the twenty-one! Why did the minority "follow" a majority that was wrong all the time on estimates and why wasn't the same minority willing to accept the judgments of its group even when these were at times correct?

The two situations were psychologically very different. It is much more difficult to estimate the length of lines than it is to compare lines. Also, there is more room for error in guessing at lengths, and thus a wider range of error can be tolerated. This is particularly clear from the results of the third experiment. It was possible and even plausible to follow the group on the 9-inch line, less so on the 5-inch line, but it proved impossible to accept the majority judgment on the $2\frac{1}{2}$ -inch line. Besides, the behavior of the majority was made more reasonable and, therefore, more acceptable on the estimates by the fact that its members were not unanimous. Though the prescribed answers were beyond the range of the control judgments, they were not all the same.

In the comparison of lines, the minority faced a unanimous majority. And though this majority gave correct answers to the first five lines, the perceptual situation on many of these lines judged incorrectly afterwards was much too compelling, much too clear to be accepted as plausible. The complete agreement on the part of the majority intensified the unreasonableness of its behavior.

The unreasonableness of the situation had a very interesting effect on the minority. Whereas in the estimate experiment the younger children tended to answer as individuals and almost never

to form a group, in the comparison of lines it was in all grades a group versus group situation. In the face of a unanimous but wrong majority, even the younger children sought security in group formation and group belonging. This is well expressed in some of the protocols obtained in the individual interviews: "Eight of us in the back gave different answers. We in the back, we were right." An eight-and-one-half-year-old girl said: "Children in the last two rows gave most of the right answers; most of them they guessed whacky. I thought they were blind; if I didn't know, I giggled a little. I don't understand it. Having different seats took a reaction—but then those in front would have it right. Maybe they didn't have good eyesight and maybe they couldn't see if they sit too close to the front."

That the overestimated judgments of the majority in Experiment III were somehow more reasonable than the incorrect answers on the comparison of lines is also apparent from the comments of the minority children. A ten year old explained: "When they said fifteen inches—I have a lot of rulers and use them. All of us looked around, but we thought maybe they weren't so good at that. But when they said 'smaller,' I began to think it was a little strange. I know I might have poor vision, though I don't, but the others couldn't all." A twelve year old remarked: "It was a little strange that they should give such outlandish answers, *the inches were the easiest to get wrong because there is such a wide range of answers. You may think it's one thing, and it may be another thing. Some people can't judge it as well. When they gave length, they were a little closer.*" And another said: "It was quite obvious that some lines were longer, and they said they were shorter. *It was obvious as if you took your thumb and said it was longer.*" An eight-and-one-half-year-old girl said: "*I thought it was a trick on the second part. On the first all gave different answers.* Even though on first they gave bigger than I thought was right, I didn't think it was a trick on the first, only on the second. It made me feel that the others were silly."

The explanation most frequently offered for the behavior of the majority in Experiment IV was: "Maybe they compared the wrong lines." An eight-year-old boy said: "I was surprised—thought they were a little nuts in the brain. I didn't even think they could

give such crazy answers. Maybe—I don't know—maybe they need glasses like me."

Under what conditions is a minority willing to follow an overwhelming majority? The results on the estimate experiment agree with the findings of Asch, Luchins, Coffin, and others that "social influence varies, among other factors, with variation in structural clarity." But what about the results of our comparison experiment? Did following occur when there was a lack of structurization as was the case with comparison lines differing by one-quarter inch from the standard?

On the positive side our findings confirm previous research. When the stimulus field is clearly structured and completely lacking in ambiguity, group pressure is weak. The opposite does not, however, hold. When, in a situation that is ambiguous and lacking in clear structurization, the majority gives obviously wrong answers, *no following will occur*. In fact there will be a shifting away from the majority and a tendency to give independent, even if incorrect, answers. A good illustration of such behavior is Table 22. Equality, as we have mentioned above, proved difficult and ambiguous even under control conditions. The judgments in the critical experiment show a wide scatter and little consistency, which is even more marked when the majority did judge correctly. In this case, 58 per cent of the younger children and 33 per cent of the older went against the majority. In other words, a majority will not be followed blindly even in situations which, objectively, lack clarity—and even if this majority is known to have been right at times. Lack of structurization in the perceptual situation led to ambiguous unstructured behavior and to a loss of a definite frame of reference. This lack of faith in the majority did not, however, affect the judgments of the minority in clear situations which followed. Thus the 5½-inch and 5¾-inch comparison lines which were presented afterwards yielded a high percentage of correct judgments (see Table 24, Figure 14).

The behavior of the minority was mostly oriented toward the task and the objective qualities of the situation.¹ When asked in

¹ These results disprove Schonbar's conclusion that "when there is conflict between social pressure and the correct estimate, subjects are more likely to yield to social pressure than to the pressure exerted by the objective structure of the situation." (16.)

which experiment it was easier to go against the majority, most children agreed that in the Comparison Experiment it was easier—because “I am sure the lines were different and they said crazy things,” said one boy. An eleven-year-old child said: “You knew it was different. Even on the plainest things they gave wrong answers as though they were doing something different.” Still another pupil said: “It was easier to disagree on the comparison. I was thinking they may have a different way of measuring an inch, but on the comparison it could be plainly seen. On the first test I wasn’t so sure; on the second I was sure.”

Many children, of course, admitted that they wished they could have agreed with the majority. As one nine year old put it: “It would make me feel good to follow my friends, but I would be wrong and that is stupid.” Another child said: “I felt like giving the same answers but I didn’t think they were right.” And another said: “I wanted to give the right answer, and theirs were wrong.”

Of course, this going against the large majority was made easier because one could still remain a member of a group. The minority child could, when the majority was wrong, find security in his membership in the small minority group and thus preserve the “we” feeling. And there was in Experiment IV, as was indicated before, a very strong tendency for the eight children in the back to solidify into a psychologically cohesive group.

SUMMARY

When a small minority is pitted against a large majority that gives unanimous but often obviously wrong judgments on perceptual material, the following effects are observed:

1. When the objective situation is clearly structured, the effect of the majority on the judgments is ineffective.
2. When the objective task is ambiguous and the majority is correct, the opinion of the majority may serve as a new frame of reference for the minority.
3. The wrong answers of the majority to the same task do not lead to following on the part of the minority, but rather to independent, even if incorrect, judgments.

CHAPTER SEVEN

Discussion and Summary

OUR QUANTITATIVE results might at first glance support the classical hypothesis that man is a victim of the group and that he does not evaluate situations on the basis of their objective qualities and needs.

A careful evaluation of the same results in the light of the qualitative observations and the individual reactions of our subjects to the experimental situations, leads us to question this hypothesis.

We find that even when following occurs, it is not a blind and uncritical acceptance of the answers of a majority as right because they were given by that majority. It is also found to take place more often when the objective situation had proved ambiguous and unclear even under control conditions.

We also observe that such situations are not particularly natural nor easy for the subjects. On the contrary, incorrect group opinion is given by the members of the minority with a great deal of emotional disturbance, with expressions of uneasiness, bewilderment and insecurity.

In the classical literature the nature of the situations that brought about following were never analyzed. And yet we find that the behavior of an individual or of a group can be understood only when the actual, concrete, total situation is studied and its meaning to the individual is fully comprehended.

To come closer to a full appreciation of group dynamics, we have studied the behavior of young children in situations which are natural and meaningful to them.

In the familiar setting of the classroom, we have presented individual children of seven to thirteen years of age with simple tasks. In Experiment I the child was confronted with the unanimous right and wrong answers of a small group of his peers. In Experiment II the task was the same, but this time the child's own teacher

gave the wrong answers. In the last two experiments, the experimental situation was the same, but the task was varied.

The results show clearly and conclusively that the two situations of Experiments I and II were viewed very differently by the child. There was a great deal of following in Experiment I and but little in Experiment II.

One must now ask the question: "Why did the disagreement of members of one's class have such a strong effect on the judgments of an individual child, and why is the child so little affected by the wrong answers of his teacher? In the life space of the child the teacher is, after all, an individual vested with special qualities such as knowledge and prestige. In view of the fact that the child looks up to her more than to his classmates, why this tolerance verging on indifference in relation to the teacher's disagreement?

Both the behavior during the test as well as the protocols obtained in personal interviews with each child point to the fact that the teacher is not viewed in the same way by a child, especially the younger one, as are his classmates. The position of the teacher really is one of an outsider, who although part of the school situation, is never judged as a member of the group. In the world of the child, she indeed plays an important part, but the rules of the game that apply to the child's group do not apply to her nor to any other adult. Toward an outsider one can afford to be tolerant and even indifferent, but not so toward a member of one's own group. The child's membership in the group is not threatened by the disagreement of the teacher. If she chooses to have a different "opinion" even on simple lines, that is her right. The child, though puzzled and, as was sometimes the case, fearful, does not feel even the need to follow her.

Our findings agree with those of Duncker (6) that the prestige of the predecessor does not necessarily favor imitation. In fact "respect can act as a wall—when the difference between A and B is so great as to prevent diffusion."

Under what conditions will the members of a small group be willing to follow a majority that is made up of the members of their class?

In the last two experiments we have varied the objective tasks

without altering the nature of the experimental situation. And yet, though outwardly similar, the situations in Experiments III and IV proved psychologically different.

For, it is more difficult to estimate the lengths of lines than it is to compare lines. The overestimated judgments of the majority, especially on the longer lines, were therefore still accepted within the limits of reasonableness by the minority children.

When the same majority, however, unanimously pronounced as shorter a line that was one half or three quarters of an inch longer than the standard, the minority lost faith in the judgment of the group and the unanimous agreement of the majority only seemed to strengthen the unreasonableness and strangeness of the situation. With less structured tasks (equality or only one quarter of an inch difference) the correct responses of the majority led to an improvement in accuracy of judgment among the minority subjects but the incorrect answers to the same task failed to produce following.

There are, as we see, different degrees and kinds of ambiguity. There are situations which, like the 9-inch line of Experiment III, are ambiguous because of a certain indefiniteness and lack of clear limits. There are other situations which, psychologically, the person perceives as being unclear within a narrow range, so to speak, and beyond this range one knows that the judgment of this situation has passed from the ambiguous to the definitely wrong evaluation (Experiment IV). The boundaries, somehow, do remain clear. And, it is in the latter, that group influence will decrease and even become ineffective. This holds true even when the majority is a group that one knows and of which one is a member.

In all the experimental variations we found age to be an important factor. The younger children of seven to ten years are influenced much more by group pressure in their judgment of simple perceptual material than are children of ten years and older.

This may be partially due to the fact that in the lower grades the students remain with the same teacher and the same classmates for a number of years. Since the older children gave more accurate judgments than the younger ones even under control conditions, maturation may operate as a factor in judgment of perceptual material.

Also, membership in the group is not as yet well defined as it is for the older child.

Among the younger there are no permanent friendship relationships observed. The classmates are also the playmates after school. In the older group frequent allusion was made to specific members of the class and loyalty and identification was directed toward those individuals rather than to the group as a whole.

There was, however, a clear realization among the members of both age groups that the majority was wrong. But, whereas the older children seemed to have a strong need somehow to explain the situation and to make the behavior of their classmates reasonable, the younger ones upon finding themselves in a situation that seemed to contradict and to undermine what they knew from experience to be true only responded with surprise and a puzzled indifference.

Even the young children showed a very keen understanding and critical appreciation for the qualities that a good teacher and effective leader should have. All children irrespective of age were unanimous in their characterization of a good teacher as one who is strict but fair, possesses understanding and a good sense of humor. But, whereas to the younger children discipline and strictness, if reasonable, were viewed as a necessity and condition of learning, to the older they were simply tools to be applied in different degrees in dealing with different children. As one thirteen-year-old boy put it: "Yes, but firmness is not so good for some children. You sometimes begin to hate a firm teacher, and I don't like this feeling."

A boy in the seventh grade raised the question whether there was a need for such experiments as ours or not. He felt that in Germany they would prove of value but why do them in the United States where everyone is free. The question was taken up by the group and discussed spontaneously. Of course, these children related "freedom" to their particular school experiences only, and most of them felt that even with teachers who are fair, the pupils are not really free to say what they think in the classroom. Most teachers are too impatient with children and do not give them the time to prove that they are right.

The question of leadership was also discussed with these groups.

Such qualities as: fairness, impartiality, good judgment, and intelligence were most frequently referred to as essential to good leadership. The children definitely rejected "bossy" and "aggressive" types and "show-offs" as leaders. In one case, where a capable but rather ruthless and very domineering child was favored by the teacher, the pupils expressed a great deal of resentment toward this choice, admitting that the child was "bright" and "able" but much too "bossy" and "unfair." They never, even at the suggestion of the teacher, elected this girl president of their class. Whatever "jobs" she was given in this class were delegated to her by the teacher and not by her classmates. The experimenter was impressed with this genuine and very strong sense for democracy and for justice among children.

Even seven-year-old children realized the difficult position of an individual in relation to a group and the dangers in assuming that the group must be right. When a seven year old tried to justify her complete following in Experiment I with the explanation, "So many gave the answer, it must be right," the group spontaneously raised the problem of Nazism as an example of a majority being wrong.

The majority children, after observing many of their classmates give in to group influence, commented on the difficulty of the position of being one against many. When asked how they thought they would behave in such a situation, many felt that they would give their own opinion no matter how many disagreed with them. Others qualified this statement in the following way: "If the lines were hard to tell apart, I would have agreed with the majority, but not when they were clear." "I think I would have stuck to my own point. If I didn't know anything, I would follow." "I would study the situation more carefully. They could be wrong too." "I would think something was wrong with my eyes and I might follow." "I would be nervous and scared. If many are against you, you don't want to be different even if inside of you, you want to stick to your own opinion."

All were aware of the difficulty of going against one's own group but the majority agreed that when the problem in question was

very clear it would be much easier for the individual to go against the majority.

We see, therefore, that there is an alternative to the classical hypothesis and its implications for wider human issues are, indeed, very important.

We do not claim that our results give a complete answer to our social problems but it may be helpful to re-evaluate some of our old beliefs.

We could, perhaps, in the light of our findings reformulate our conception of man as a social being. Instead of envisaging him as a slave of habits and of the drive for gratification, we should also recognize man's great need for structurization, for clarity, for an honest understanding of the world around him.

Instead of stressing personal, even if arbitrarily chosen rewards as a precondition for learning, perhaps it is time to speak in psychology also about learning that springs from the need to know and to understand. As Professor Wertheimer so often said in his lectures, there has been too much emphasis on the "laziness," "stupidity," and "selfishness" of man, and too little has been said about his positive achievements and search for truth.

Bibliography

1. Annis, A. D., and N. C. Meier. "The Induction of Opinion through Suggestion by Means of Planted Contents," *Journal of Social Psychology*, V (1934), 65-81.
2. Asch, S. E. "Studies in the Principles of Judgments and Attitudes: II. Determination of Judgments by Group and Ego Standards," *Journal of Social Psychology*, XII (1940), 433-65.
3. ——— Unpublished papers.
4. Clark, H. "The Crowd," *Psychological Monograph*, XXI, No. 92 (1916), 26-36.
5. Coffin, Thomas E. "Some Conditions of Suggestion and Suggestibility: a Study of Some Attitudinal Factors Influencing the Process of Suggestion," *Psychological Monograph*, XLVI (1941), 241.
6. Duncker, Karl. "Experimental Modifications of Children's Food Preferences through Social Suggestion," *Journal of Abnormal and Social Psychology*, XXXIII, No. 4 (1938), 489-507.
7. Lewis, H. B. "An Experiment on the Operation of Prestige Suggestion," in *Readings in Social Psychology*, edited by T. Newcomb and E. L. Hartley. New York, Henry Holt & Company, 1947.
8. ——— "Studies in the Principles of Judgment and Attitudes," *Journal of Social Psychology*, XIV (1941), 229-56.
9. Lorge, I. "Prestige, Suggestion, Attitudes," *Journal of Social Psychology*, VII (1936), 386-402.
10. Luchins, A. S. "On Agreement with Another's Judgment," *Journal of Abnormal and Social Psychology*, XXXIX (1944), 97-111.
11. ——— "Social Influence on Perception of Complex Drawings," *Journal of Social Psychology*, XXI (1945), 257-73.
12. Marinho, H. "Social Influence in the Formation of Enduring Preferences," *Journal of Abnormal and Social Psychology*, XXXVII (1942), 448-68.
13. Moore, H. T. "The Comparative Influence of Majority and Expert Opinion," *American Journal of Psychology*, XXXII (1921), 16-20.
14. Münsterberg, H. *Grundzüge der Psychotechnik*. Berlin, 1914. Pp. 266-71.

15. Murphy, G., L. Murphy, and T. Newcomb. *Experimental Social Psychology*. New York, Harper & Brothers, 1937.
16. Schonbar, R. A. "The Interaction of Observer-Pairs in Judging Visual Extent and Movement: the Formation of Social Norms in 'Structured' Situations," *Archives of Psychology*, No. 299 (1945).
17. Sherif, M. *The Psychology of Social Norms*. New York, Harper & Brothers, 1936.
18. ——— "A Study in Some Social Factors in Perception," *Archives of Psychology*, No. 187 (1935).
19. Smith, G. Milton. *A Simplified Guide to Statistics*. New York, Rinehart & Company, 1946.

Index

- Ambiguity, *see* Structurization
- Annis, A. D., and N. C. Meier, experiment of, 4-5
- Asch, S. E., experiments of, 5, 6, 10, 11
- Children, younger, 19, 22, 24, 25, 27, 32, 52, 58; older, 19, 24, 25, 28, 32, 36, 52, 58, 59, 64; qualitative differences, 27-28; attitude toward experiments, 28, 29, 30, 31-32, 40, 46, 47, 56, 71, 72, 73, 75, 80; *see also* Minority, critical children; Opportunity classes
- Clark, H., experiments of, 3-4
- Coffin, T. E., experiments of, 6-7; criticism of his studies, 7; quoted, 74
- Copying, 28, 31, 32; children's attitude toward, 28, 59, 60; *see also* Following
- Critical ratios, 25, 26, 41, 43, 54, 55; explanation of, 25ⁿ
- Dunker, K., experiments of, 8-9, 77; quoted, 8, 9
- Experiments, physical conditions, 13; psychological conditions, 17-18, 29-30
- Following, 4, 12, 54; individual differences in, 19; on critical lines, 21, 22, 24, 32, 36, 37, 56; on uncritical lines, 22, 24, 32, 36; and age, 24, 25, 27, 28, 33, 36, 37, 40, 41, 45, 60, 71, 78; and I.Q., 25, 26, 33, 60; and submissiveness and aggressiveness, 26, 44; and clarity of situation, 31, 33, 48, 60, 62, 71, 74; *see also* Children; Copying; Group pressure; Imitation; Leadership; Minority, critical children; Prestige
- Group pressure, 12, 21, 25, 54, 60, 62, 78; *see also* Following
- Imitation, 6, 9, 77; and age, 8; and repetition, 10; *see also* Following
- Independent judgment, 34, 40, 41; definition of, 34
- Leadership, 10, 58, 60; quality of leader, 10; children's attitude toward, 79, 80; *see also* Prestige, Teacher
- Lewis, H. B., 5-6, 7; quoted, 6
- Lorge, I., 5
- Luchins, A. S., 6
- Majority groups, selection of, 12, 14, 35, 78; attitude toward experiments, 18
- Marinho, H., experiments of, 8, 9-10

- Meier, N. C., *see* Annis, A. D., and N. C. Meier
- Minority, critical children, 14, 16, 17, 18, 30, 31, 34, 35, 50, 55, 57; *see also* Children, Opportunity classes
- Moore, H. T., experiments of, 1-2; criticism of his experiments, 2-3
- Münsterberg, H., experiments of, 3
- Opinion, 1-5; shifts in, 2-4; *see also* Propaganda, Suggestion
- Opportunity classes, definition of, 14; comparison with average classes, 26, 60
- Prestige, 5, 6, 38, 41, 46, 48, 77; and imitation, 8; *see also* Leadership, Teacher
- Propaganda, 4-5; and attitudes, 7; *see also* Opinion, Suggestion
- Schonbar, R. A., quoted, 74*n*
- Sherif, M., 5, 6
- Structurization, degrees of, 3, 4, 6, 11, 31-32, 33, 48, 62, 71, 72, 74, 78
- Suggestion, definition of, 1; new trends in study of, 4, 8, 10-11, 31, 76, 81; and occupation, 6; and difficulty of problem, 7; and political attitudes, 7; *see also* Following
- Teacher, judgment of children's personality, 13, 26, 33, 34, 45; as majority, 34, 36, 38, 41, 49, 77; as leader, 46, 77; children's attitude toward, 47-48, 79; *see also* Leadership, Prestige

UNIVERSAL
LIBRARY



116 498

UNIVERSAL
LIBRARY